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PERSPECTIVES

ON LABOUR AND INCOME

SPRING 1997

Vol. 9, No. 1

■ '96 IN REVIEW

■ NORTHERN TRENDS

- EMPLOYMENT
- EARNINGS AND INCOME

■ CLOTHING MANUFACTURING

■ RRSP CONTRIBUTORS

- YOUNG PEOPLE
- LOW INCOME

■ WORK ARRANGEMENTS

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The rate of RRSP participation of persons with low incomes has been increasing since the early 1980s. This note explores the reasons for this and examines participation among men and women by personal and family income.

48 Work arrangements: 1995 overview

Ernest B. Akyeampong

This article provides highlights of results from the 1995 Survey of Work Arrangements and compares them with those from the 1991 survey. Issues explored include business practices, juggling school and work, balancing work and family, job quality, reasons for self-employment, and work hour preferences. (This article appeared as an advance release in December 1996.)

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Forum

Letter from the Editor-in-Chief

■ In the Spring 1996 issue of *Perspectives* I listed a number of the challenges faced by government statisticians. The particular dilemma I would like to revisit here, by means of a very current example, concerns the trade-off between consistency and relevance. I'll expand on that.

In virtually all repeated surveys, one of the main goals is to generate accurate measures of change. This is the consistency objective. To achieve that objective it is necessary to hold constant through time almost all aspects of the survey, particularly the questionnaire. Well and good, you say, but what if the phenomenon to be measured is changing? What if you detect that some of the survey's measures are not as accurate as you can make them? Therein lies the objective of relevance. A survey that doesn't reflect conditions that have emerged, or that doesn't reflect current conditions as accurately as it could, is failing, at least to some degree, the relevance test. But achieving relevance sometimes necessitates a loss of consistency, hence the dilemma.

And now for the current example. As many of you may already be aware, a revised Labour Force Survey (LFS) questionnaire was introduced in January of this year. This is the first significant change in the questionnaire since 1975 when the survey was last overhauled. The current changes were brought about after careful consultations with data users, and inspired by a need to address deficiencies of which we had been aware for some time. The introduction of this questionnaire will, therefore, greatly improve the relevance of the data. However, this will involve some reduction in the consistency of the data through time. In addressing the loss of consistency, it is useful to divide the output data into several groups.

First are the core estimates of the number of employed and unemployed persons. Great care has been taken to avoid disturbing these estimates, so for these important variables there should be little discernible loss of consistency.

Next are estimates of the characteristics of the employed and unemployed. For example, the definition of part-time employment, once based on total hours of

all jobs for multiple job holders, will now consider hours of the main job only. Fortunately, it was possible to make this change using the old LFS questionnaire, which meant no loss of consistency. Several other revisions were also achieved in this way.

Other changes could not be implemented using the old questionnaire, so they represent a loss of consistency, but a gain in relevance. For example, the so-called discouraged workers are now identified on the basis of their current desire for work, instead of their job search in the past six months. Similarly, the data on "involuntary" part-time workers were strengthened. (Involuntary part-time workers are those who, when asked why they were working part time, claimed they could not find full-time work.) This strengthening involved, among other changes, asking direct questions on the desire for full-time employment. While the changes to data on both discouraged workers and involuntary part-time work represent a loss of consistency, this loss is more than offset by new measures that will have far greater acceptance in the data user community.

The most important gains in relevance have been achieved by adding variables not previously collected on the LFS. Here, consistency is not an issue. These include measures of average weekly and hourly earnings, union membership, job permanence and size of the employing establishment.

It is said that these are times of unprecedented rates of change in Canadian labour markets. To the extent that this is true, it makes dealing with the consistency-relevance trade-off that much more difficult. In times of rapid shifts, it is important to know not only the rate of change, but also the rate of change in the rate of change; that is, whether the change is accelerating or decelerating. However, it is never just a matter of growth or decline in the same things. Labour market shifts are not simply a matter of more or fewer jobs. Rather, it is a matter of the changing nature of jobs. To capture emerging trends we need to alter the labour market variables on enquiries like the Labour Force Survey. We need measures that break with the past.

While the users of LFS data will be the ultimate judges, those who manage the survey have tried to strike just the right balance between maintaining consistency and achieving relevance.

Ian Macredie
Editor-in-Chief



For further information on the revised LFS questionnaire, see "The Labour Force Survey: Development of a new questionnaire for 1997." This document is available on the Internet at <http://www.statcan.ca> under the "Research papers" section of the "Virtual library."

We welcome your views on articles and other items that have appeared in *Perspectives*. Additional insights on the data are also welcome, but to be considered for publication, communications should be factual and analytical. We encourage readers to inform us about their current research projects, new publications, data sources, and upcoming events relating to labour and income.

Statistics Canada reserves the right to select and edit items for publication. Correspondence, in either official language, should be addressed to: Heather Berrea, What's new? Co-ordinator, *Perspectives on Labour and Income*, 5-D Jean Talon Building, Statistics Canada, Ottawa K1A 0T6. Telephone (613) 951-8613; fax (613) 951-4179 or on the Internet: berrhea@statcan.ca.

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Your feedback is essential to ensure that *Perspectives* continues to meet your needs, so a new reader survey appears in this issue.

Please take a few moments to let us know how we are doing by completing the form on page 64 and returning it (or a copy) by mail or fax. If you have further comments or questions, feel free to use additional sheets.

Highlights

■ The labour market: Year-end review ... p. 9

- Employment increased by 189,000 in 1996. This was half the strong showing of 1994 (381,000), but almost double that of 1995 (99,000). In spite of this, the unemployment rate increased from 9.4% in December 1995 to 9.7% in December 1996, owing to an even larger increase in the labour force (263,000).
- Even though growth in merchandise exports has tapered off over the past three years, both GDP and employment gains continue to be fuelled mainly by this sector.
- Last year saw a return to the 1994 distribution pattern of employment growth, with gains among adult women (110,000 or 2.1%) exceeding those of adult men (99,000 or 1.6%). All employment gains among adult men were full-time, while two-thirds of adult women's were part-time. Youths continued to lose jobs, with the 1996 decline totalling 20,000.
- Employment growth was concentrated in the goods sector, accounting for slightly over half (103,000) of total gains – much higher than its one-quarter share of the workforce. Manufacturing (70,000) and agriculture (32,000) were responsible for most of the increase in this sector.
- Self-employment gains in 1996 totalled 125,000 (5.6%), with most of the increase occurring in the second half of the year. Employment in the private sector increased by 98,000 (1.1%) while that of the public sector decreased by 33,000 (-1.6%).
- Quebec and the Atlantic provinces lost employment in 1996, while Ontario and the western provinces recorded gains. Employment growth was exceptionally strong in Alberta (4.1%) and British Columbia (4.2%), about three times the national rate.
- Both adult women's labour force participation rate (which had fluctuated in recent years) and the proportion of workers with more than one job (which had remained virtually unchanged) resumed their upward trends in 1996.

- Among the G-7 countries, Canada's rate of job gains in 1996 was surpassed only by that of the United States.

■ Employment and industrial development in the North ... p. 18

- The North's overall rate of paid employment growth was double that of the rest of Canada from 1983 to 1995. Annual average paid employment grew from 25,800 in 1983 to 35,700 in 1995.
- In the North, 84% of paid employment was in the service sector in 1995, compared with 77% in the rest of Canada. From 1983 to 1995, northern employment grew most in education; trade; accommodation, food and beverage services, and health and social services.
- In 1995, public sector jobs made up a higher proportion of employment in the North than in the rest of Canada, accounting for 44% of all employees in the Northwest Territories and 39% in the Yukon. Only 24% of employees held these jobs in the rest of Canada.
- Two occupational groups in particular have experienced rapid growth in the North: managerial and administrative fields and the social sciences. Women, especially, occupy a greater share of managerial and administrative occupations and jobs in natural sciences, engineering and mathematics.
- The unemployment rate of northern youths increased from 8.0% in 1971 to 25.4% in 1991; the corresponding rates for the rest of Canada were 15.3% and 21.9%.
- Non-Aboriginal adults and recent migrants tend to have higher rates of employment and lower rates of unemployment than Aboriginal people or longer-term residents. Aboriginal people are more likely to live in rural areas, which offer fewer employment and educational opportunities.

■ Northern earnings and income

... p. 28

- The Northwest Territories experienced the highest rate of growth in average yearly earnings in Canada between 1970 and 1990. Average employment income increased by 35%, compared with 19% in Canada.
- From 1990 to 1994, median earnings continued to be higher in the North, despite greater declines there than in Canada overall. In 1994, median earnings were 20% higher in the Northwest Territories and 13% higher in the Yukon.
- A lower percentage of employed northerners than workers in Canada worked full year full time, yet annual earnings were higher in the North. For those who worked full year full time in the Northwest Territories average employment income in 1990 was \$42,300, for those in the Yukon, \$37,300, and for those in Canada, \$33,700.
- In 1990, women in the Northwest Territories earned 35% more than women in Canada overall; in the Yukon they earned 22% more. Men's earnings were 22% greater in the Northwest Territories and 7% greater in the Yukon.
- The male-female wage gap is less pronounced in the North than in Canada overall. In 1994, for every dollar earned by men, women earned 67 cents in the Northwest Territories, 78 cents in the Yukon and 62 cents across Canada.
- Youths working full year full time earn considerably more than youths in the rest of Canada; their 1990 average earnings were 33% higher in the Northwest Territories, and 24% higher in the Yukon.

■ Sizing up employment in clothing manufacturing

... p. 33

- Employment in the clothing manufacturing industry remained relatively steady from 1981 to 1989, with a net loss of 1,100 jobs. From 1989 to 1994, however, employment dropped by 28%, representing 31,800 jobs.
- Three out of four workers in clothing manufacturing are women, compared with just one in four in all other manufacturing industries. Also, one in two are

immigrant workers, compared with one in four elsewhere. In fact, 37% of clothing manufacturing employees are female immigrants, compared with just 7% in all other manufacturing.

- Production of Canadian-made clothing increased throughout most of the 1980s, peaking in 1989 at \$6.9 billion. It declined for three years to \$5.9 billion in 1992, then increased to \$6.2 billion by 1995.
- Exports accounted for much of the clothing production gains of the 1990s, increasing steadily to \$1.3 billion in 1995.
- Imports continue to account for a growing share of the Canadian market, reaching 42% or \$3.6 billion in 1995. This increase will likely continue as global competition becomes tougher with the phasing-out of the Multi-Fibre Arrangement.
- Although advanced manufacturing technology (AMT) has helped increase labour productivity, it has also heightened the need for skilled workers. In 1993, 47% of clothing firms using AMT reported a shortage of skills, compared with 24% for non-clothing firms.

■ RRSP participation – the sooner the better

... p. 41

- A growing number of younger Canadians are participating in RRSPs. In 1983, just 11% of eligible taxfilers who were 25 to 29 years of age contributed. When four years older, 22% of them did so. Furthermore, while 19% of this age group participated in 1988, 32% took part four years later.
- Of the 2.2 million eligible taxfilers aged 25 to 29 in 1983, 30% (679,000) contributed at least once from 1983 to 1987 and 11% did so in all five years. In comparison, 40% (987,000) of the 2.5 million in that age group in 1988 contributed at least once from 1988 to 1992 and 17% did so in all five years.
- From 1983 to 1987, the 679,000 contributors deposited \$4.2 billion for an average annual amount of \$2,600. From 1988 to 1992, the total contribution was higher (\$5.8 billion) but the average annual amount deposited was only \$2,200. This decrease can be attributed to the dramatic growth in the number of contributors with low earnings, especially women.

- The higher the income, the more likely the younger taxfiler made RRSP contributions. Of those with less than \$10,000 in employment income (1990 dollars), just 21% contributed at least once between 1988 and 1992. This proportion increased for each income group, to 88% for those earning \$50,000 or more.
- Some RRSP contributions are withdrawn, sometimes within the same tax year. However, for every young person withdrawing from 1988 to 1992, almost four contributed, and for every one dollar withdrawn, six were contributed.

Low incomes and RRSPs ... p. 46

- Although the bulk of the growth in RRSP participation during the 1980s and early 1990s was among taxfilers with personal incomes of \$30,000 or over (1990 dollars), the growth among those with income under \$20,000 was also significant. From 1982 to 1992, the proportion of eligible filers with this income who contributed grew from 4% to 16%.
- Women account for most of the increase in RRSP participation in the last 15 years, but they still represent the majority of contributors with low incomes. While their proportion among contributors with \$30,000 or more increased from 23% in 1982 to 31% in 1992, their percentage among those with under \$20,000 went up from 60% to 65%.
- Even though the number of eligible married taxfilers with family incomes under \$30,000 decreased by nearly 300,000 over the 10-year period, the number of married RRSP contributors with this income increased by almost 100,000. This growth can also be attributed to the increasing participation of women. Their share of married contributors with family incomes under \$30,000 grew from 22% to 39%.

Work arrangements: 1995 overview ... p. 48

- According to the Survey of Work Arrangements, the proportion of workers aged 15 to 69 with a flexitime work arrangement (that is, an arrangement that permitted, within limits, some variation of work start and end times) rose from 16% to 24% (to 2.6 million) between 1991 and 1995. Similarly, work at home saw an increase. The proportion of employees who regularly did some or all of their paid work at home rose from 6% to 9% (to one million).

- In 1995, over one-half of workers (51%) were covered by an employer-sponsored retirement plan or group RRSP; 59%, by a health plan, and 55%, by a dental plan. Furthermore, 57% of employees were entitled to paid sick leave.
- Only one-quarter of all employed young students had a regular daytime ("9 to 5") work schedule. The rest had a shift, irregular, on-call or casual schedule; a large majority of these did so to accommodate their school demands.
- Employed mothers aged 25 to 44 with pre-school aged children were slightly more likely to have work arrangements that helped to balance work and care of children. Approximately 28% had flexitime arrangements, compared with 25% of their counterparts without pre-schoolers. Some 13% worked from home, compared with 11%.
- Employees with permanent, with full-time, or with public sector jobs had greater access to non-wage benefits. The likelihood of being covered by non-wage benefit plans and of having paid sick leave entitlement also increased with firm size.
- Approximately 2.1 million people were self-employed in their main job in November 1995. The main reasons given for engaging in self-employment were enjoyment of independence (42%), carrying on a family business (17%), no other work available (12%), and a desire to make more money (10%).
- About 6% of paid workers (the majority being women) indicated a preference for fewer hours for less pay, while almost 28% preferred to work more hours for more pay. However, almost 50% of youths, of part-timers and of persons in non-permanent jobs preferred to work more hours.

What's new? ... p. 53

- The Survey of Consumer Finances and the Household Facilities and Equipment Survey have just released three income studies. *Earnings of Men and Women, 1995* looks at how earnings of men and women compare and how education, age, full- and part-time status and job tenure affect earnings differences; *Household Facilities by Income and Other Characteristics, 1996* examines such issues as how the level of household income affects Canadian households, the relationship between household income and family home ownership, and the

- presence of various household facilities and equipment. *Family Incomes, Census Families, 1995* looks at trends and patterns of income for census and non-census families (that is, nuclear families as opposed to extended families).
- *Territorial Indicators of Employment: Focusing on Rural Development* is a new report released by the Organisation for Economic Co-operation and Development (OECD). It was compiled with the assistance of Statistics Canada and looks at the characteristics and dynamics of rural labour markets in Canada and other member nations of the OECD.
 - *Services Indicators* has released its second-quarter 1996 issue, whose feature article is titled "The temporary help service industry: Its role, structure and growth." It studies the industry that supplies temporary help to business and industry.
 - *Growing Up in Canada, 1994-95* contains analyses of data from the National Longitudinal Survey of Children and Youth. The report presents early findings and conclusions of studies undertaken by experts on child development.
 - *Annual Estimates of Employment, Earnings and Hours, 1983-1995*, from the Survey of Employment, Payrolls and Hours, is now available in electronic format. Users of this easy-to-load, user-friendly software can browse, print or export data into the spreadsheet of their choice.
 - *Family Income after Separation*, released by the Labour and Household Surveys Analysis Division, looks at family composition as well as after-tax income before and after separation.
 - The Analytical Studies Branch has released four more research papers. *Were Small Producers the Engines of Growth in the Canadian Manufacturing Sector in the 1980s?* evaluates the performance of small firms by studying employment, wage rates and labour productivity. *Longitudinal Aspects of Earnings Inequality in Canada* asks whether new spells of low earnings now last longer than they used to, and whether long-term inequality in earnings rose in the eighties. *Changes in Job Tenure and Job Stability in Canada* studies changes in job stability from 1981 to 1994. Finally, *Unemployment in the Stock and Flow* presents a framework for analyzing unemployment and applies it to Canadian and U.S. data.
 - The final version of the SLID 1993 public-use microdata file has now been distributed. Those who had purchased the preliminary version should have received this final version automatically. □

The labour market: Year-end review

Ernest B. Akyeampong

The past three years – all of them economic expansion years – have painted very different labour market pictures. In terms of employment, both the strength and the pattern of growth differed from one year to the next. In 1996, that is, from December 1995 to December 1996, the increase (189,000) was half the strong showing of 1994 (381,000), but almost double that of 1995 (99,000). Furthermore, while growth was steady throughout 1994, it stalled until the latter half of 1995 and performed erratically in 1996. More than half the increase of the first four months was lost over the following couple of months, a pattern that was more or less repeated in the second half of the year (Chart A).

In terms of unemployment, the magnitude and direction of change also varied significantly from year to year. The unemployment rate saw a large decline in 1994 (from 11.2% at the close of 1993 to 9.6% a year later), a small and gradual decline in 1995 (to 9.4%), and an erratic but upward trend in 1996 (to roughly 10.0% during the last three months).

The economic environment

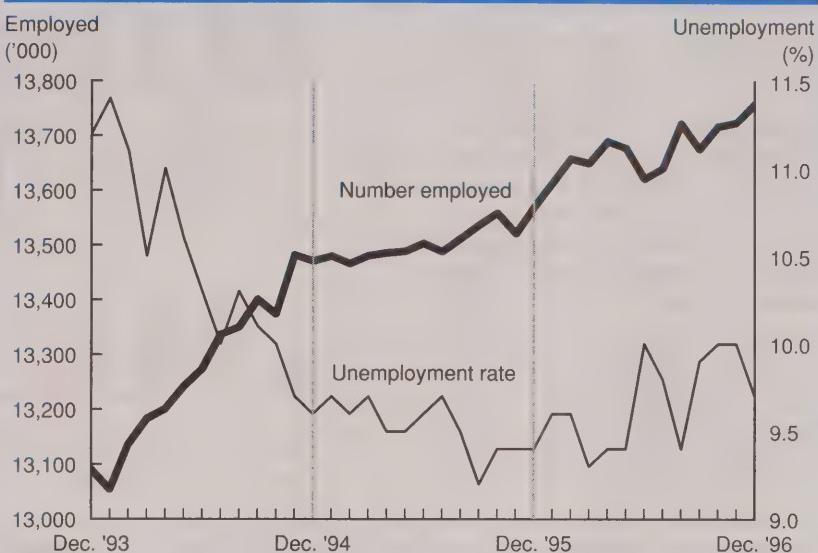
Lags and leads notwithstanding, these labour market developments were influenced by concurrent macroeconomic and other circumstances of the last three years. Some of these developments are worth noting (Chart B).

Except for a few deviations (third-quarter 1996 being one example), the employment picture

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Chart A

The unemployment rate rose in 1996 because labour force * growth outpaced employment gains.



Source: Labour Force Survey

* Includes both the employed and unemployed.

appeared to be closely associated with movements in real gross domestic product (GDP), the broadest measure of economic performance. The strong quarterly GDP growth rates throughout 1994 fell off dramatically in 1995, especially during the first half of the year. From the third quarter of 1995 to the second quarter of 1996, the GDP grew slowly (at around 0.3%), then increased by 0.8% in the third quarter. The slower employment growth during the second and third quarters of 1996 also appears to be related to the fact that businesses resorted more to non-farm inventory liquidation than to accumulation.

Personal spending on goods and services also plays a significant role in both GDP and employment growth. Although interest rates began to drop in the spring of 1995, overall growth in personal spending that year was only one-half the

This article is based on information available as of January 10, 1997. Unless otherwise noted, monthly data have been seasonally adjusted to provide a better picture of underlying trends. Seasonal movements are those caused by regular annual events such as climate, holidays, vacation periods, and cycles related to crops and production. Seasonally adjusted series still contain irregular and longer-term cyclical fluctuations.

increase in 1994 (1.4% versus 2.9%). The surge during the first three months of 1996 (1.3%) was short-lived. Despite the continued decline in borrowing costs and low inflation, growth in personal spending in the second and third quarters was very sluggish: 0.2% and 0.3%. This reluctance to spend can be attributed to several factors: the small increase in real personal incomes; continued high levels of personal debt; and job insecurity due in part to persistently high unemployment rates, high personal and business bankruptcy rates and low confidence in the economy's prospects. In addition, fiscal restraint practices of governments tended to dampen growth in total domestic demand.

Exports, especially merchandise, play an important role in Canada's employment growth, though these two indicators do not necessarily move in step. Year-over-year growth in merchandise exports has tapered off over the past three years: from 15% in 1994, to 12% in 1995 and 6% for the first three quarters of 1996 compared with the same period in 1995. In spite of this, GDP growth continues to be fuelled mainly by the export sector.

How has employment changed?

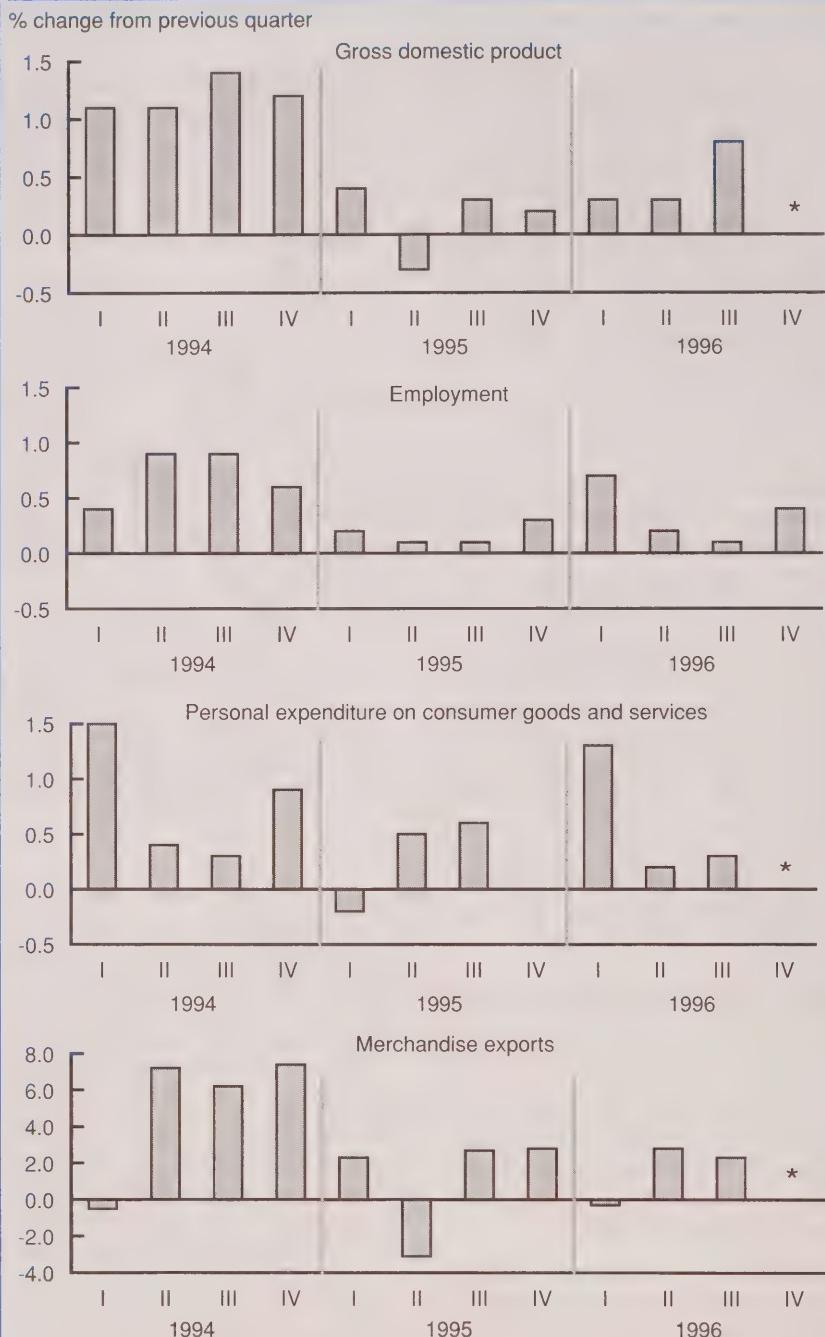
Not only did the strength and pattern of employment growth differ from year to year; so too did its split between full- and part-time work; its demographic, industrial and geographic distributions; and its breakdown between paid workers and the self-employed.

Full-time/part-time work

All employment growth from December 1993 to December 1994 was full-time (436,000). Indeed, part-time employment in 1994 declined by 55,000. This picture was reversed in 1995, when part-time

Chart B

Employment growth is closely associated with movements in the GDP.



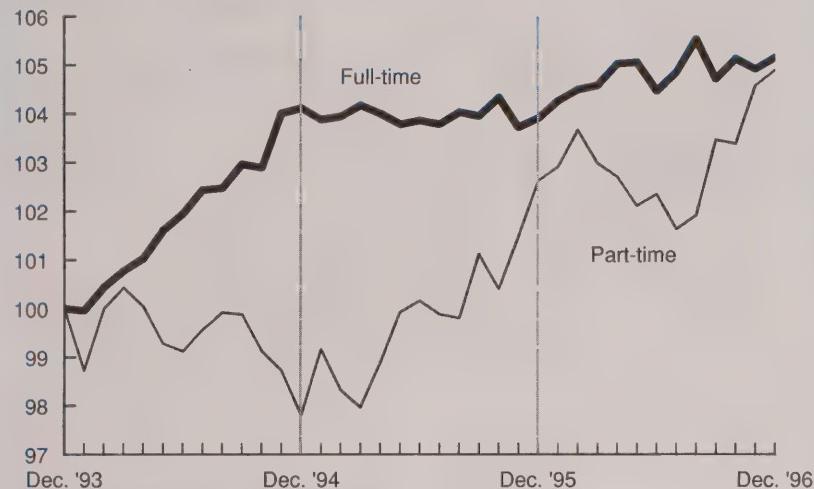
Sources: Labour Force Survey, and National Accounts and Environment Division
Note: Scale for merchandise exports differs from the others.

* Data not available.

Chart C

Unlike the situation in 1994 and 1995, both full- and part-time employment contributed to job growth in 1996.

December 1993=100



Source: Labour Force Survey

adult women (110,000 or 2.1%) exceeding that of adult men (99,000 or 1.6%). Youths continued to see their employment numbers dwindle (-20,000 or -1%). All employment gains among adult men in 1996 were full-time, while two-thirds of adult women's were part-time.

Industry shares

Both goods- and service-producing industries enjoyed strong employment gains in 1994. In absolute and relative terms, however, growth in the goods sector (209,000 or 6.1%) exceeded that of the service sector (171,000 or 1.8%). Over the course of the following year, the service sector saw its employment levels rise by 131,000, while the goods sector registered a loss of 35,000. In 1996, as in 1994, employment growth was concentrated in the goods sector, accounting for slightly over one-half (103,000) of total gains throughout the year –

jobs (121,000) accounted for all employment growth, and full-time declined by 22,000. In 1996, job growth was both full-time (132,000) and part-time (57,000) (Chart C).

Demographic distributions

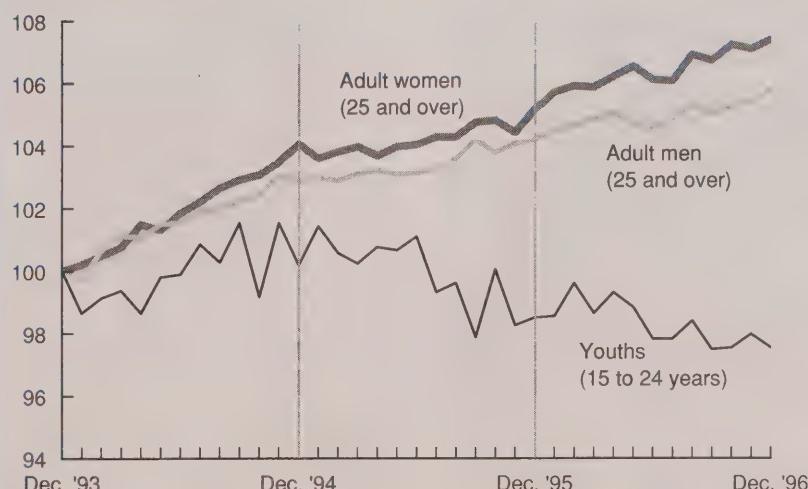
Except for 1994, when youths (15 to 24 year-olds) saw a marginal rise (4,000), job gains in the past three years have gone to adult men and women (aged 25 or over). However, their respective shares of the gains have varied over the period (Chart D).

In 1994, employment gains by adult women (199,000) slightly exceeded those of adult men (178,000). The following year, the picture was reversed: men's gains (80,000) surpassed women's (54,000). That year, youth employment fell by 35,000. This past year saw a return to the 1994 distribution pattern, with growth among

Chart D

Adult employment has seen sustained growth, while youths continue to lose ground.

December 1993=100

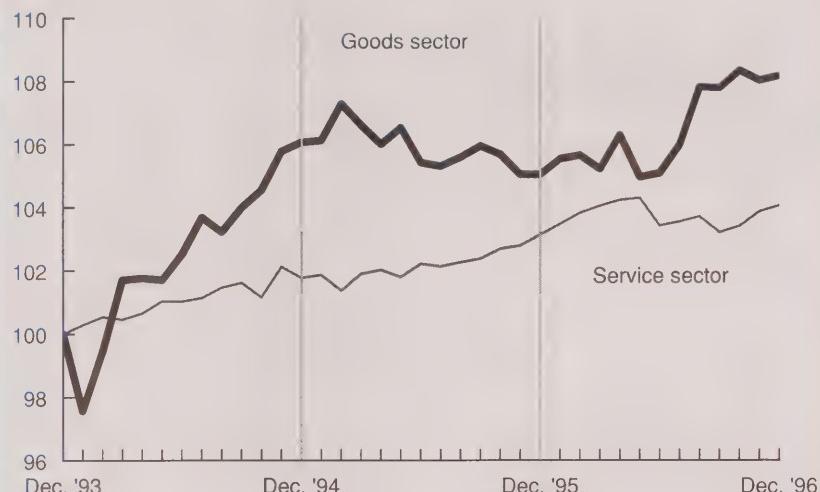


Source: Labour Force Survey

Chart E

The goods sector showed strong employment growth in the second half of 1996.

December 1993=100



Source: Labour Force Survey

much higher than its one-quarter share of the workforce (Chart E).

The goods sector owed its strong performance in 1996 to the large employment increase in manufacturing (70,000 or 3%) – mostly in metal fabricating, electronic and wood products – and in agriculture (32,000 or 7%) (Chart F). A year earlier, these two industries had each lost employment. Last year's industrial strife in the auto sector does not appear to have had a major effect on employment growth in manufacturing, while the large increase in agricultural employment can be linked to the bumper grain harvest. By mid-1996, employment in the construction industry, in decline since late 1994, had begun to show some strength, though volatile, thanks to increased activity in both residential and non-residential construction. The rally was not strong enough, however, to prevent the loss of 3,000 jobs in 1996. New housing appears not to have been

as popular with home buyers as homes in the resale market, hence the moderate residential construction activity. Employment remained unchanged in the other primary industries.

The rather weak employment growth in the service sector in 1996 can be traced largely to poor performance in services. Employment gains there had totalled 170,000 in 1994 and 120,000 in 1995, but reached only 52,000 or 1.0% in 1996. Large employment losses in some public services (namely, health, education and social services) offset gains elsewhere, notably in services to business. Finance, insurance and real estate began the year with some impressive employment gains (in finance), but then gave way to even greater losses. Strong gains in autumn, again in finance, resulted in an overall industry employment growth of 8,000 (1.0%) in 1996.

Employment gains were recorded in both trade (42,000) – mostly wholesale trade – and public administration (27,000) in 1996, but losses were registered in transportation, communication and other utilities (-31,000), mainly in communication.

Provincial distributions

While all provinces shared proportionately in the strong employment growth of 1994, the moderate job gains of 1995 were concentrated in Quebec, British Columbia, Alberta and Nova Scotia. In 1996, all provinces east of Ontario recorded employment losses, while Ontario and the western provinces registered gains (Chart G).

Between December 1995 and December 1996, Newfoundland saw employment gains in only three months, with losses or no gain in the others. It ended the year with a loss of 8,000 (-4.1%).

In Prince Edward Island, employment levels moved very little during the first eight months of 1996. Then, slight and consecutive declines brought the year-end level to just 1,000 (-1.6%) less than that of December 1995.

In Nova Scotia, half the employment losses in the first three months were regained in the second quarter. This was quickly followed by another large loss in July. Since then, employment has edged up only slightly, and the level at the close of the year was 9,000 (-2.3%) lower than a year earlier – a reversal of the 14,000 gain in 1995.

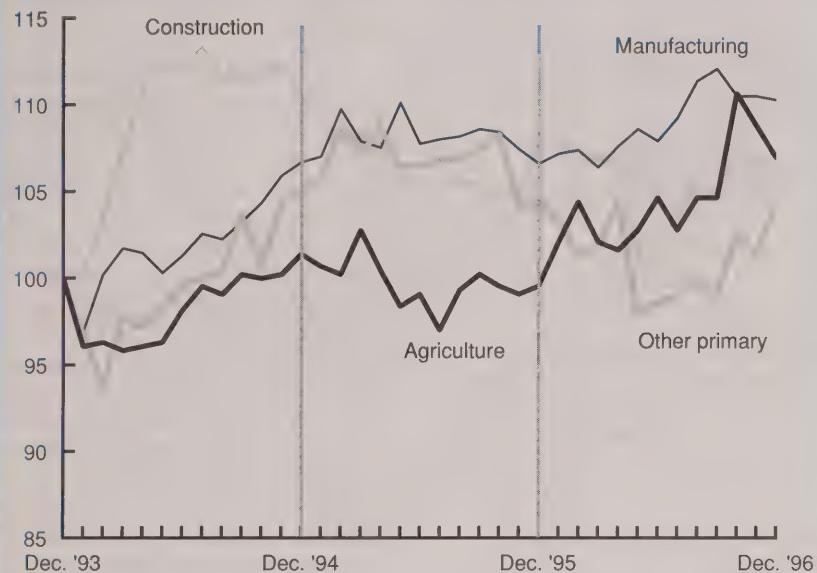
Employment levels fluctuated in New Brunswick in 1996, but the monthly losses exceeded the gains, and the province ended the year with a loss of 8,000 – larger than the 5,000 drop in 1995.

In 1995, Quebec had recorded the largest employment gain (40,000) among the provinces; in 1996, it posted a loss (-18,000 or -0.6%). Following some very early

Chart F

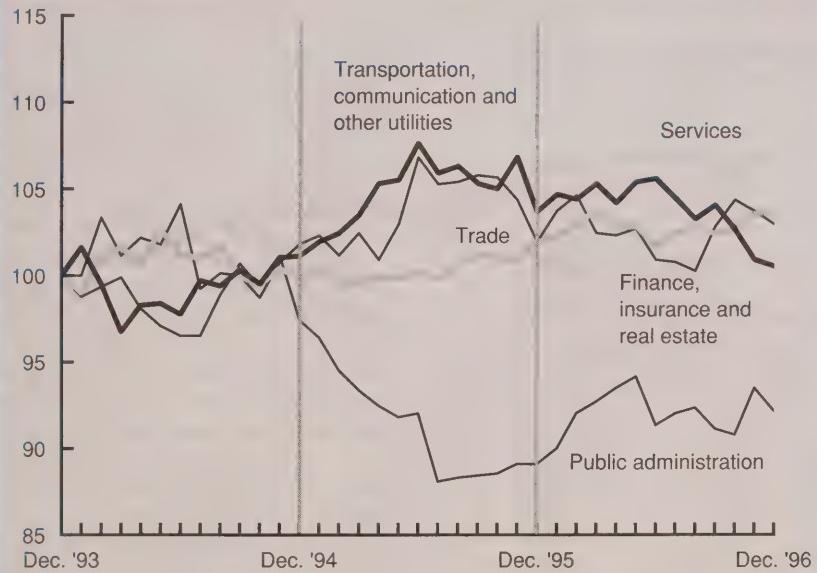
Manufacturing and agriculture fuelled employment growth in the goods sector in 1996 ...

December 1993=100



while job losses in public services * and communication contributed to a lacklustre service sector performance.

December 1993=100



Source: Labour Force Survey

* Public services, namely, health, education and social services, is part of the services industry.

gains, the province lost 90,000 jobs during March through July, mostly in trade and public services. About half of these losses were regained in August. The next five months saw minor losses offset by a slight gain at the end of the year.

Ontario painted a fluctuating employment picture during the first half of 1996, but increased activity in manufacturing fuelled an upward trend during the second half of the year. In absolute terms, Ontario's employment gain (77,000) amounted to 40% of the overall national increase; its employment growth rate (1.5%) just barely exceeded the national figure of 1.4%. In spite of the employment declines during the last two months, mostly in communication and public services, the province's overall job increase in 1996 was almost six times the gain in 1995 (13,000).

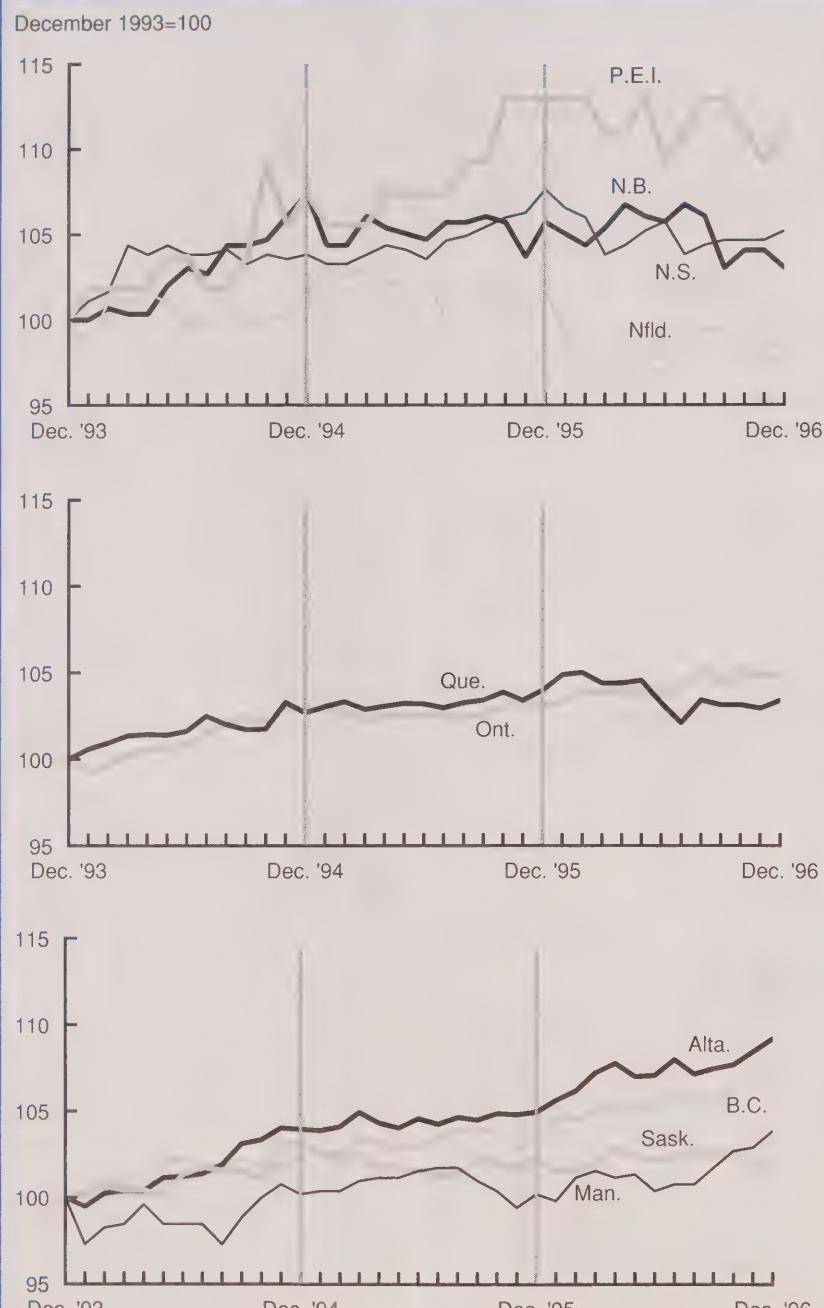
Manitoba showed no change in employment in 1995. The trend in 1996, however, was upward, fuelled mainly by trade, providing a gain for the year of 19,000 (3.7%).

Saskatchewan lost jobs in 1995 (-4000). Monthly employment gains and losses in 1996 almost cancelled each other out, and the province ended the year with just 1,000 more jobs.

Alberta and British Columbia are the only provinces to have registered sustained upward trends in their employment levels from 1994 to 1996. Indeed, last year their rates of employment growth (4.1% [56,000] and 4.2% [74,000]) were about three times larger than that of the nation as a whole. Furthermore, the job gains in these two provinces were more widespread across industries.

Self-employment growth fastest
With all levels of government practising fiscal restraint, the decline in public sector¹ employment that

Chart G
In 1996, Quebec and the East saw employment drop while Ontario and the West posted gains.



Source: Labour Force Survey

began during the latter part of 1994 accelerated in 1995. The decreases continued into 1996, though at a slower pace. Employment losses in this sector totalled 33,000 (-1.6%) last year, almost all of them in health, education and social services.

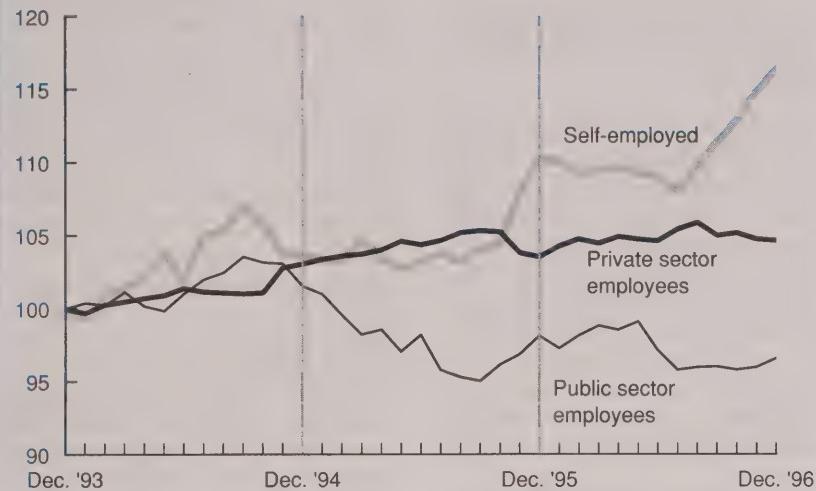
In the private sector, the number of employees grew throughout 1994 and most of 1995. Since the last quarter of 1995, the level has fluctuated. The increase in 1996 amounted to 98,000 (1.1%). Self-employment also grew steadily during the first three quarters of 1994. Following a brief decline, the level remained fairly flat for about a year, but climbed again in autumn 1995. The slight drop during the first half of 1996 was followed by a rapid and sustained growth in the second half. Self-employment gains over the course of the year totalled 125,000 (5.6%); self-employment now accounts for 17% (2.4 million) of total employment, up from 14% (1.7 million) a decade ago (Chart H).²

Moonlighting on the rise

Moonlighting, registering an annual average of some 650,000 workers from 1993 to 1995, saw a big jump in 1996, rising to about 700,000. Expressed differently, the moonlighting rate, that is, the proportion of employed persons holding more than one job, rose from around 4.9% in 1995 to roughly 5.1% in 1996. Youths as well as adult men and women contributed to this increase. Two factors may have played some role in the sudden increase. First, low increases in real earnings in recent years may have forced many workers to take on additional jobs to help make ends meet. Indeed, results from the 1991 and 1995 Surveys of Work Arrangements show that more than half of moonlighters take additional jobs for financial reasons

Chart H
Self-employment experienced rapid growth in the second half of 1996.

December 1993=100



Source: Labour Force Survey

Note: See note 1 for definitions.

(Siroonian, 1993). Second, the perceived erosion of job security in recent years may have pushed some people to take a second job as a buffer against sudden unemployment.

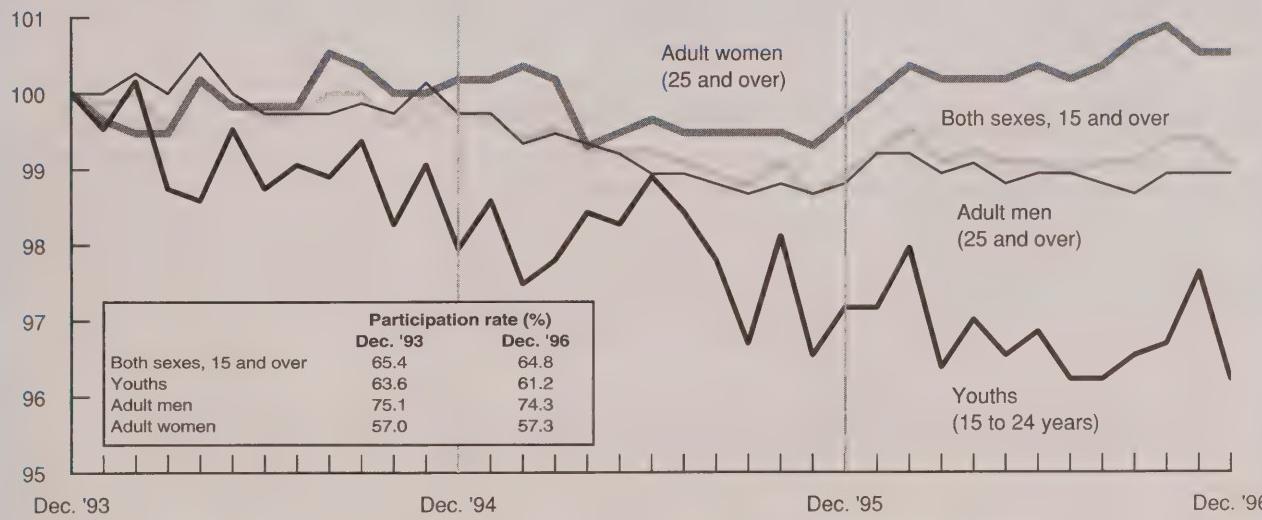
Unemployment

Movements in the overall unemployment rate are the result of the interactions between employment and labour force³ changes. In 1994, growth in employment tended to outpace that of the labour force, causing the unemployment rate to decline. In 1995, however, the two measures tended to move in tandem, making little difference to the unemployment rate. Employment growth in 1996 (189,000), though erratic, was nevertheless better than the year before, but it was accompanied by an even greater increase in the labour force (263,000). The result was a rise in the unemployment rate. On an annual average basis, the overall

Chart I

The overall participation rate inched up in 1996, thanks to the resumption of the upward trend for adult women.

December 1993=100



Source: Labour Force Survey

unemployment rate fell from 10.4% in 1994 to 9.5% in 1995, then rose to 9.7% in 1996.

This interplay of movements in overall employment, the labour force, and the unemployment rate held true all three years for both adult men and women and, to a large extent, for youths. Men's annual rate fell from 9.4% to 8.4%, then rose marginally to 8.5% in 1996. The corresponding rates for adult women were 8.9%, 8.2% and 8.4%, and for youths, 16.5%, 15.6% and 16.1%.

Quebec and the Atlantic provinces each registered a double-digit annual average unemployment rate in 1996, ranging from 11.7% in New Brunswick and 11.8% in Quebec to 19.4% in Newfoundland. Ontario and the western provinces each recorded a single-digit rate, ranging from 6.6% in Saskatchewan (one-third the rate of Newfoundland) to 9.1% in Ontario.

The annual average number of unemployed Canadians, as well as the average unemployment duration (the average number of weeks unemployed persons have continuously sought work without success), moved in line with the unemployment rate. The number of unemployed fell from 1,541,000 in 1994 to 1,422,000 in 1995, and rose to 1,469,000 in 1996. Similarly, average unemployment duration moved from 25.7 weeks to 24.3, to 28.0. (In 1990, the average duration had been 16.8 weeks.) In 1996, about one in 8 unemployed persons sought work without success for between six months and one year; a similar proportion had done so for more than a year.

Participation rate inches up

As noted earlier, last year's growth in the labour force (263,000) exceeded that of employment (189,000). Adult women accounted for about half the year's labour force growth, their participation rate having risen from 56.8% at the end of 1995 to 57.3% by December 1996 (Chart I).

The participation rate has fluctuated for the last six years, following a sustained annual growth that lasted more than two decades (Akyeampong, 1995; Butlin, 1995; Dumas, 1996; Macredie, 1996). Still, the 1996 annual average of 57.2% is the highest ever recorded for adult women. In fact, their strong showing alone managed to nudge the overall rate from 64.8% in 1995 to 64.9%.

In contrast, adult men's participation rate has seen annual declines for the past two decades, with the exception of 1996 (74.3%), which differed little from 1995. The rate increased early in the year, falling back in the second quarter to 74.3%, and remaining fairly flat. The youth rate has also trended downwards this decade, with 1996 no exception, although the last quarter produced a slight increase. Youths' annual average participation rate for 1996 (61.6%) was down from 62.2% in 1995.

International comparisons

Among the G-7 countries,⁴ Canada's annual average employment growth (1.3%) in 1996 was bettered only by that of the United States (1.4%). Preliminary estimates⁵ show comparable growth rates of around 0.5% in Japan and Italy,

just 0.2% in the United Kingdom and 0.1% in France. Germany⁶ experienced a 0.9% decline.

In terms of unemployment, the data suggest a slight widening of the gap between Canadian and U.S. annual average rates. In 1996, the rates were 9.7% versus 5.4%; a year earlier, they had been 9.5% and 5.6%. Preliminary estimates also indicate that among the G-7 countries, only France (12.5%) and Italy (12.2%) had rates higher than Canada's. Japan's rate of 3.4% was about one-third that of Canada; Germany's and the United Kingdom's stood at 7.2% and 8.2%.

Summary

Despite continuing sluggish domestic spending, employment growth in 1996, though erratic, was better than that of 1995, thanks mainly to exports. In spite of this, the unemployment rate increased in 1996 because labour force growth was even greater.

Employment growth in 1996 was not universal, however. Higher-than-average growth rates were recorded especially in Alberta and British Columbia, as well as in the goods sector, among adult women, and in self-employment. However, in Quebec and the Atlantic provinces, among young people, and in the public sector, there were actually some job losses.

In 1996, both adult women's labour force participation rate (which had fluctuated in recent years) and the multiple job-holding rate (which had remained virtually unchanged) resumed their upward trends. □

■ Notes

1 The public sector includes employees working for the federal government, provincial or local governments, agencies or other government bodies, Crown corporations, or government-owned institutions such as schools or hospitals. The private sector includes all other employees and the self-employed. The self-employed are working owners of businesses (incorporated or unincorporated), professional practices or farms. On Chart H, the line labelled "self-employed" also includes unpaid family workers (persons who work without pay on a farm or in a business or professional practice owned and operated by another family member living in the same dwelling).

2 Results from the 1995 Survey of Work Arrangements (SWA) show that the main reasons for engaging in self-employment were enjoyment of independence (42%), carrying on a family business (17%), no other work available (12%), and a desire to make more money (10%) (Akyeampong, 1997).

For another look at SWA data on the self-employed, see "Key labour and income facts" in this issue.

3 The labour force includes both the employed and unemployed.

4 The G-7 countries are Canada, France, Germany, Italy, Japan, the United Kingdom and the United States.

5 These estimates were produced by the U.S. Bureau of Labor Statistics, based on data available at the end of 1996. All data approximate U.S. labour market definitions so as to make the comparisons meaningful.

6 Figures for Germany refer to the Federal Republic of Germany before unification.

■ References

Akyeampong, E.B. "Work arrangements: 1995 overview." *Perspectives on Labour and Income* (Statistics Canada, Catalogue no. 75-001-XPE) 9, no. 1 (Spring 1997): 48-52.

—. "The labour market: Year-end review." *Perspectives on Labour and Income* (Statistics Canada, Catalogue no. 75-001-XPE) 7, no. 1 (Spring 1995): supplement.

Butlin, G. "Adult women's participation at a standstill." *Perspectives on Labour and Income* (Statistics Canada, Catalogue no. 75-001-XPE) 7, no. 3 (Autumn 1995): 30-33.

Dumas, C. "The labour market: Year-end review." *Perspectives on Labour and Income* (Statistics Canada, Catalogue no. 75-001-XPE) 8, no. 1 (Spring 1996): 9-15.

Macredie, I. "The labour market: Mid-year review." *Perspectives on Labour and Income* (Statistics Canada, Catalogue no. 75-001-XPE) 8, no. 3 (Autumn 1996): 9-16.

Siroonian, J. *Work Arrangements*. Analytic Report no. 6. Catalogue no. 71-535-XPB, no. 6. Ottawa: Statistics Canada, 1993.

Statistics Canada. *National Income and Expenditure Accounts*. Quarterly Estimates. Third Quarter 1996. Part 1 – Tables. Catalogue no. 13-001-PPB. Ottawa, 1996.

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Employment and industrial development in the North

Lee Grenon

Over the past century natural resource industries have transformed the North. Its economy has expanded beyond fishing, hunting, trapping and independent prospecting to include resource-based industries and a broad service sector. Today, most independent operators have given way to large corporations and to unionized miners and engineers. Many other workers are also migrating to the area as its economy diversifies.

This study compares economic and employment trends in the Yukon and Northwest Territories with those in the rest of the country. The accompanying study in this issue, "Northern earnings and income," compares northern earnings and income trends with those elsewhere in the country (see *Data sources* and *Definitions*).

The northern economy

Boom-to-bust cycles have produced considerable variation in northern economic performance during the past decade, particularly in the Yukon. Mining makes up a large share of the Yukon's gross domestic product (GDP). As a consequence, movements of this indicator have been relatively volatile because of changing conditions in the industry. For example, from 1985 through 1987, GDP increased by 57% with the re-opening of the Faro lead-zinc mine, and by 12% between 1991 and 1992 following a labour dispute in 1991 (Chart A). Because mining suffered a major decline in 1993, GDP dropped by 19% between 1992 and 1994. When the industry recovered in 1995, economic output rebounded

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Data sources

Aboriginal Peoples Survey (APS)

For information on this survey see *Data on the Aboriginal population*.

Census of Canada

The census is held every five years, and provides labour force and demographic information such as industry, occupation, age, sex, ethnic origin and length of residency. Data from the 1996 Census will begin to be released this year. For further information see Statistics Canada (1996a).

The 1991 Census introduced a change in the definition of the Census population. Comparisons of 1991 data and those from earlier censuses should be made with caution.

Labour Force Survey (LFS)

The Labour Force Survey, conducted by Statistics Canada each month, produces official employment and unemployment statistics for Canada (excluding the Yukon and Northwest Territories). Winter figures cited in Table 1 of this article are three-month averages (January to March).

Labour Force Survey in the Yukon

Since 1992, Statistics Canada has conducted a special labour force survey for the Yukon. The Yukon Bureau of Statistics releases data from this survey on a three-month average basis.

Neighbourhood Income and Demographic file (taxfilers database)

This file is produced by Statistics Canada's Small Area and Administra-

by 11%. (At the end of 1996, the Faro mine suspended operations.)

Between 1984 and 1989, economic growth was weaker in the Northwest Territories than in the

tive Data Division based on the T1 income tax form. Statistics on taxfilers' income and demographic characteristics are available for detailed geographic areas.

Northwest Territories Labour Force Survey

During February and March 1994, the N.W.T. Bureau of Statistics conducted a labour force survey of over 12,000 persons aged 15 years and over. Surveys were also conducted in December 1984 and in 1989 (January to March).

The Public Institutions Division

Statistics Canada produces estimates of public sector employment and wages and salaries. Coverage does not include universities, lay and religious residential care facilities, Newfoundland school boards, or First Nations and Inuit administrations.

Survey of Employment, Payrolls and Hours (SEPH)

SEPH is the largest survey of businesses in Canada, and the only source of current weekly earnings at a detailed industry level.² Comparable historical estimates are available from 1983 on.

System of National Accounts

Estimates of provincial and territorial gross domestic product (GDP) by industry are produced by the Industry Measures and Analysis Division of Statistics Canada. Estimates of provincial and territorial GDP at factor cost by industry are available from 1984 on.

rest of Canada. Its GDP grew by just 10%. Gold mining, petroleum production, and oil and gas exploration generated moderate economic growth in the late 1980s. Then, in the early 1990s, oil and

Definitions

Average income is the aggregate income for a population divided by the population count. **Median income** is the amount that splits the income distribution into halves. Median and average income calculations include individuals with either positive or negative income.

Total income is annual income received from all sources for the reference year: **employment income (earnings)** includes wages, salaries, commissions, net income from unincorporated non-farm business and/or professional practice, and net farm self-employment income; **government transfer payments** include Old Age Security and Guaranteed Income Supplement, Canada and Quebec Pension Plan benefits, Employment Insurance benefits, Family Allowance, Federal Child Tax Credit, and other income from government; **other income** includes investment income, retirement income, and other money income such as alimony, child support, severance pay and strike pay.

The census and the APS collect information on income from persons aged 15 years and over. Estimates of total income for taxfilers include all income reported by individuals on income tax returns.

Income is presented in constant dollars, adjusted for inflation using the Consumer Price Index (CPI). Income data from the census (1990 dollars) and taxfiler income data (1994 dollars) are adjusted with the Canada annual average of the CPI.

The definition of **employed** used in the Census of Canada, the Aboriginal Peoples Survey, Labour Force Surveys and the Neighbourhood Income and Demographic file is broader than that of paid employee used in the Survey of Employment, Payrolls and Hours. Employed persons in the census, APS and LFS include persons

aged 15 years and over who reported receiving wages, salaries, commissions, or self-employment income. The taxfilers database includes all persons who reported income from employment or self-employment.

Paid employee refers to a person receiving pay for services rendered (including paid absences), and for whom the employer is required to complete a Revenue Canada T-4 Supplementary Form. Included are full- and part-time employees, as well as working owners, directors, partners and other officers of incorporated businesses. Estimates for paid employees are from the SEPH. Statistics are not collected for self-employed persons with unincorporated businesses.

Those who **worked full year full time** were employed in 1990 for 49 to 52 weeks, and worked 30 hours or more a week for most of the year.

The official definition of **unemployed** refers to persons available for work during the reference week: who were without work and had actively looked for work in the previous four weeks; or who had been on temporary layoff and expected to return to work; or who had definite arrangements to start working within the next four weeks.

An alternative definition of unemployment used in the N.W.T. Labour Force Survey includes "persons who wanted a job... *but had not looked for work because they perceived no jobs to be available.*" This alternative definition is similar to the concept of "discouraged worker" used by Canada's Labour Force Survey.

The **experienced labour force** consists of people who were in the labour force the week preceding the census (that is, they were employed or unemployed) and, if unemployed (that is, on temporary layoff or looking for work),

had worked at some time since January 1 of the year preceding the census.

Occupation refers to the kind of work performed. If a person was employed the week before the census, that occupation was assigned; otherwise, the job of longest duration since January 1 of the preceding year was used in the analysis.

Industry estimates are based on the 1980 Standard Industrial Classification.

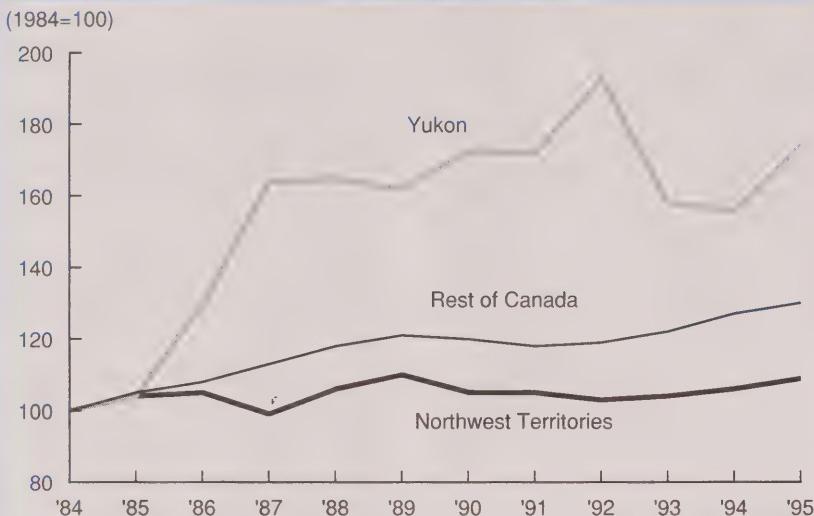
Estimates of **gross domestic product (GDP)** at factor cost by industry for provinces and territories have been revised for 1984 to 1991, and are preliminary for 1992 to 1995. All are in 1986 dollars. Estimates for years prior to 1984 may not be directly comparable owing to a change in methods used to estimate provincial and territorial GDP by industry.

The **North and northern Canada** refer to the Yukon and Northwest Territories. Most comparisons are between the Yukon or Northwest Territories and the rest of Canada; however, because of data limitations, some comparisons are with all of Canada. (For general facts about the North, see Appendix).

Recent migrants are adults 15 years and over who lived in the Yukon or Northwest Territories at the time of the 1991 Census, and lived in a different province, territory or country at the time of the 1986 Census. **Longer-term residents** are persons 15 years and over who resided in the same territory (either the Yukon or the Northwest Territories) during both censuses.

An **urban area** has a population of at least 1,000 people and a population density of at least 400 people per square kilometre, as of the previous census.

**Chart A
The Yukon's GDP is relatively volatile.**



Source: Industry Measures and Analysis Division

Note: The Faro lead-zinc mine in the Yukon re-opened in 1985. In the summer of 1991, a strike took place. In the summer of 1993, mining operations were suspended. At the end of 1994, activity resumed. In December 1996, mining operations were again suspended.

1983 to 1995 (Chart B). Despite greater fluctuations in its GDP, the North's annual average paid employment increased from 25,800 to 35,700, exceeding its pre-recession peak. In contrast, paid employment in the rest of Canada remained below its 1990 high point.³

Both employment and unemployment rates are higher in the North (Table 1)⁴ – the result of a relatively mobile workforce and young population. For example, persons who moved to the North from elsewhere or from one territory to another between 1986 and 1991 made up 28% of northern workers in 1991. Among the working-age population (that is, 15 years and over), the percentage aged 15 to 64 years in 1995 was 95.8% in the Northwest Territories and 93.9% in the Yukon. It was just 84.9% in the rest of Canada.

Since Statistics Canada's definition of unemployment may not be a satisfactory measure of joblessness

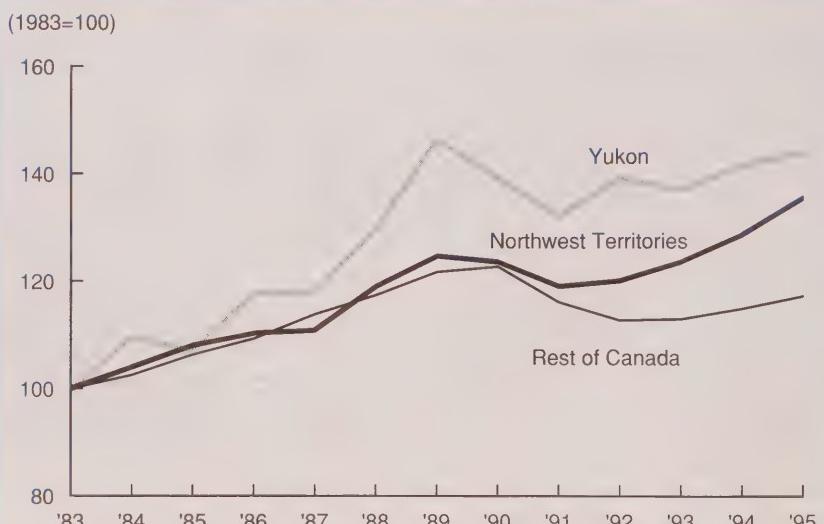
gas exploration and resource industry construction declined, while gold mining suffered from mine closures and labour disputes. Consequently, GDP fell by 6% from 1989 to 1992. Thanks to renewed activity in mining, by 1995 economic output had nearly returned to its pre-recession peak.

In contrast, from 1984 to 1989 Canada's GDP grew by 21%. Despite declines and weak growth in the early 1990s, the Canadian economy was 7% larger in 1995 than it had been in 1989. The Northwest Territories' GDP was still 1% below its 1989 peak, and the Yukon's was 10% below its 1992 level.

Employment in the North

Northern Canada's overall rate of paid employment growth was double that of the rest of Canada from

**Chart B
Employment growth has been stronger in the North.**



Source: Survey of Employment, Payrolls and Hours

Table 1
Labour force activity of persons aged 15 years and over

	1986 Census	Winter 1989	1991 Census	Winter 1994
	%			
Northwest Territories				
Participation rate	70	70	73	73
Employment rate	60	59	63	61
Unemployment rate	14	16	13	17
Yukon				
Participation rate	79	..	82	60
Employment rate	69	..	72	52
Unemployment rate	13	..	12	14
Rest of Canada				
Participation rate	66	66	68	64
Employment rate	60	61	61	56
Unemployment rate	10	8	10	12

Sources: Northwest Territories Labour Force Survey, 1989 and 1994; Yukon Bureau of Statistics, 1994; Labour Force Survey, 1989 and 1994; Census of Canada, 1986 and 1991. For details, see Data sources.

The growing service sector's requirement for public and commercial facilities has promoted employment in the construction industry. Natural resources have also made a major contribution to employment. On the other hand, manufacturing remains relatively small and narrowly based, which has limited the growth of the goods-producing workforce. The latter peaked at the height of mining, oil and gas activity in the late 1980s (Table 2), then lost ground early this decade.

The public sector⁶ continues to make a major contribution to the northern economy. In 1995, it employed 44% of all employees in the Northwest Territories and 39% in the Yukon. In the rest of Canada,

in small remote communities, an alternative measure of unemployment is also used by the Northwest Territories.⁵ It includes people who want to work but have not looked for work because they believe no jobs are available. This rate is considerably higher than the official rate, attesting to the difficulty of finding employment in northern rural areas.

Diversification of the paid workforce

In 1995, 84% of paid employment in the North was in the service sector, compared with 77% in the rest of Canada. The North's higher concentration in service jobs has persisted over the past decade. While the service sector's output has not yet fully recovered from the early 1990s recession, its paid workforce has exceeded the pre-recessionary peak. From 1983 to 1995, service sector employment expanded most in education (106%), retail and wholesale trade (69%), accommodation, food and beverage services (50%), and health and social services (48%).

Table 2
Annual average paid employment

		1983	1989	1995
Industrial aggregate *	N.W.T.	17,400	21,700	23,600
	Yukon	8,400	12,300	12,100
Goods sector	N.W.T.	3,400	3,600	3,700
	Yukon	1,200	2,000	1,700
Construction	N.W.T.	400	700	1,400
	Yukon	400	800	700
Service sector	N.W.T.	14,000	18,100	19,800
	Yukon	7,300	10,300	10,300
Public administration	N.W.T.	4,900	6,200	5,800
	Yukon	1,900	2,900	2,700
Retail and wholesale trade	N.W.T.	1,500	2,100	2,900
	Yukon	1,100	1,800	1,500
Education	N.W.T.	1,400	2,100	2,600
	Yukon	400	500	1,100
Health and social services	N.W.T.	1,100	1,500	2,200
	Yukon	1,000	1,400	900
Accommodation, food and beverage services	N.W.T.	1,100	1,600	1,300
	Yukon	700	1,100	1,400
Transportation and storage	N.W.T.	1,400	1,500	1,500
	Yukon	1,100	1,400	700

Source: Survey of Employment, Payrolls and Hours

* The industrial aggregate includes employment in businesses that do not have an industry classification. Military personnel are not included in paid employment estimates.

Table 3
Distribution of employees by sector

	Northwest Territories	Yukon	Rest of Canada
	%		
All employees	100	100	100
Private sector	56	61	76
Public sector *	44	39	24
Government business enterprises	1	1	3
Government	43	38	21
Federal (including military)	6	8	3
Provincial and territorial	30	27	9
Local	7	3	8

Sources: Survey of Employment, Payrolls and Hours; Public Institutions Division, 1995

* See note 6.

24% of all employees worked in the public sector (Table 3).

Two occupational groups in particular have experienced rapid growth: managerial and adminis-

trative positions, and the social sciences (Table 4). These occupations accounted for one-quarter of the increase in northern employment from 1971 to 1991.

Aboriginal labour force

Three broad populations of Aboriginal people live in the North: Inuit, Métis and North American Indian (see *Data on the Aboriginal population* and Appendix). Regional differences in population density, economic activity and access to education and training are reflected in their respective employment and unemployment rates (Table 5).

In contrast to non-Aboriginal people, who tend to live in urban areas (63% in 1991), most Aboriginal people in the North live in rural areas (75% in 1991) with limited opportunities for employment or postsecondary education. Consequently, just 59% of adults with Aboriginal origins participated in the labour force in 1991, compared with 87% of non-Aboriginal adults.

Table 4
Distribution of experienced labour force * by occupation **

	Northwest Territories			Yukon			Rest of Canada		
	1971	1981	1991	1971	1981	1991	1971	1981	1991
Experienced labour force									%
Managerial and administrative	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Natural sciences, engineering and mathematics	4.0	9.7	13.6	3.6	8.4	12.1	4.3	6.8	9.0
Social sciences	3.2	3.4	3.4	3.5	4.1	4.0	2.7	3.4	4.0
Religion	1.1	2.3	3.6	0.8	2.3	3.3	0.9	1.6	2.1
Teaching	0.6	0.5	0.4	0.2	0.4	0.3	0.3	0.3	0.2
Medicine and health	5.0	5.7	6.2	3.2	3.7	4.3	4.0	4.1	4.2
Artistic, literary and recreational	2.9	2.9	3.0	2.3	2.6	3.0	3.8	4.3	4.9
Clerical	1.0	2.0	2.6	0.9	1.3	1.6	0.9	1.4	1.6
Sales	11.3	16.7	16.7	13.5	17.6	16.6	15.9	18.2	17.4
Services	4.2	4.7	4.6	6.4	6.7	6.7	9.5	9.6	10.0
Farming, horticultural and animal husbandry	14.4	14.6	14.7	14.3	13.4	13.1	11.2	11.9	12.7
Fishing, hunting and trapping	0.2	0.3	0.3	0.4	0.8	1.1	5.9	4.2	3.7
Forestry and logging	3.3	1.1	1.2	0.3	0.2	0.2	0.3	0.3	0.3
Mining and quarrying, including oil and gas	0.8	0.5	0.6	1.0	0.6	1.0	0.8	0.7	0.6
Processing	3.8	3.4	2.1	4.4	3.8	1.7	0.7	0.6	0.4
Machining	1.5	1.2	0.9	1.8	1.2	1.1	3.9	3.9	2.8
Product fabricating, assembling and repairing	1.5	0.8	0.6	1.0	1.0	1.0	2.8	2.6	1.8
Construction	4.6	5.1	3.2	7.2	5.5	4.1	7.4	7.8	6.0
Transport equipment operating	7.4	9.0	8.8	9.6	9.4	9.9	6.6	6.4	5.7
Material handling	4.8	5.6	5.0	6.8	5.4	3.8	3.9	3.8	3.4
Other crafts and equipment operating	2.4	2.1	1.3	2.1	1.7	0.9	2.4	2.0	1.5
Other occupations	2.3	1.5	1.0	1.7	1.1	0.9	1.3	1.2	1.0
Not stated	2.4	2.6	2.8	0.9	1.7	2.5	1.9	1.5	2.3
	17.0	4.5	3.3	14.2	7.1	6.9	8.5	3.5	4.1

Source: Census of Canada

* See Definitions.

** Based on the 1971 Occupational Classification Manual.

Data on the Aboriginal population

Characteristics of Aboriginal and non-Aboriginal persons are estimates based on the 1991 Census. Its question on ethnic or cultural origins provided information about North American Indian, Métis, or Inuit origins, elicited either as a single response or mentioned in combination with other origins. Another census question collected information on persons who were registered Indians as defined by the *Indian Act of Canada*.

The Aboriginal Peoples Survey (APS), conducted between October 1991 and January 1992, was a follow-up survey to the 1991 Census. A large-scale survey of a sample of those who had reported having Aboriginal origins and/or being registered under the act, the APS provided a portrait of those who identified with those origins, that is, considered themselves to be North American Indian, Métis, or Inuit.

In the North, most persons with Aboriginal origins also identify with their Aboriginal ancestry. Among the 25,725 persons who reported those origins and/or were registered under the act, 92% or 23,795 persons identified themselves as North American Indian, Métis or Inuit.¹

Comparison of 1986 and 1991 Census data on ethnic origin

The ethnic origin question asked in the 1991 Census differed slightly from that of the 1986 Census. In 1991, respondents were asked: "To which ethnic or cultural group(s) did this person's ancestors belong?" The 1986 Census question had asked: "To which ethnic or cultural group(s) do you or did your ancestors belong?" The phrase "do you" was removed to clarify the intent of the question, which was to measure the origins of respondents. In addition,

a note explained the purpose and intent of asking a question on ethnic origin.

These changes do not affect the comparability of 1986 and 1991 data. The reporting of ethnicity is affected, however, by the social environment and by personal factors, including awareness of family background, length of time since immigration, and confusion with other concepts such as citizenship, nationality, language or identity. Between 1986 and 1991, increases in acknowledgement of Aboriginal origins and Canadian origins, and a decrease in that of English ancestry, are likely the result of social and personal considerations. The percentage of the population reporting Aboriginal origins increased in the Northwest Territories from 59% in 1986 to 62% in 1991, and in the Yukon from 21% in 1986 to 23% in 1991.

Their official unemployment rate was considerably higher than that of the latter: 24.5% versus 6.2% (Table 6). Even in urban areas and among postsecondary graduates, Aboriginal people were less likely to be employed and more likely to be unemployed (Table 7).

Recent migrants

As with differences between non-Aboriginal and Aboriginal populations, recent migrants to the North or between territories tend to have higher rates of employment and lower rates of unemployment than do longer-term residents (Table 8). Many transient workers tend to come to the area only if they have jobs lined up and stay only as long as they have employment. The relatively high unemployment rate in 1991 among the Yukon's recent migrants was likely due to a mining labour dispute.

Greater participation of women

Women's participation in the northern labour force increased from 41% in 1971 to 71% in 1991. The

rate among men grew more slowly, from 77% to 81%. Similarly, in the rest of Canada, women's participation in the labour force increased from 40% to 60%, while men's remained steady at 76%.⁷

Table 5
Labour force activity of persons in the Yukon and Northwest Territories, by Aboriginal origin

	Participation rate	Employment rate	Unemployment rate	Worked in 1990 or 1991
Aboriginal population	61.9	46.7	24.5	73.4
Single origin	59.3	43.6	26.3	70.9
Multiple origins	73.8	60.9	17.9	84.5
Inuit *	57.3	42.8	25.3	70.2
Single origin	56.1	41.7	25.6	69.2
Multiple origins	67.0	51.9	23.2	78.9
Métis	74.1	62.5	16.0	83.9
Single origin	71.9	59.3	17.9	80.5
Multiple origins	76.8	66.4	14.0	87.9
North American Indian	64.2	47.5	26.0	74.7
Single origin	60.9	43.1	29.1	71.3
Multiple origins	74.4	60.8	18.3	85.1

Source: Census of Canada, 1991

* Most Inuit live in the sparsely populated eastern Arctic.

Table 6
Labour force activity in the North, by area and ethnic origin

	Northern adults	
	Aboriginal	Non-Aboriginal
%		
All areas		
Participation rate *	59.0	86.6
Worked in 1990 or 1991 **	73.4	92.6
Employment rate	46.8	81.6
Unemployment rate	24.5	6.2
Urban areas		
Participation rate *	68.6	86.5
Worked in 1990 or 1991 **	81.7	92.5
Employment rate	57.0	81.9
Unemployment rate	18.6	5.8
Rural areas		
Participation rate *	55.8	86.6
Worked in 1990 or 1991 **	70.7	92.7
Employment rate	43.4	81.0
Unemployment rate	26.8	7.0

Source: Census of Canada, 1991

* Experienced labour force (see Definitions).

** Adults who worked any time from January 1, 1990 to the 1991 Census reference week regardless of their labour force status in the reference week.

The employment rate among northern women also increased significantly – from 39% in 1971 to 62% in 1991. In contrast, northern men's dropped from 73% to 69%. Among women in the rest of Canada the rate rose from 36% to 52%, while among men it decreased from 71% to 67%.

Northern women increased their share of employment in managerial and administrative occupations from 14% in 1971 to 43% in 1991. Their share of jobs in natural sciences, engineering and mathematics grew from 3% to 20%.

The majority of women, however, continue to be concentrated in several occupational groups. In 1991, among women in the experienced labour force, 30% were in clerical occupations, 18% in service jobs, and 13% in managerial and administrative positions. Men were more evenly distributed across occupations: 16% in construction, 13% in managerial and administrative work and 11% in service jobs.

Fewer opportunities for youths

Labour market conditions have worsened for young people across Canada, but especially in the North, where their unemployment rate increased from 8.0% in 1971 to 25.4% in 1991. In fact, since 1981 the rate has been higher in the North than in the rest of Canada (Table 9). This may be related to lower school attendance. During the 1990-91 school year, the percentage of youths attending school was 43% in the Northwest Territories, 56% in the Yukon, and 62% in the rest of Canada. Many non-students were probably looking for work.

Older workers

The labour force participation rates of older men and women are higher in the North than in the rest of the country. In 1991, the rate for

Table 7
Labour force activity of persons with postsecondary qualifications * in the Yukon and N.W.T., by area and ethnic origin

	Northern adults	
	Aboriginal	Non-Aboriginal
%		
All areas		
Participation rate **	81.8	91.5
Worked in 1990 or 1991 †	92.4	95.4
Employment rate	67.5	86.8
Unemployment rate	19.3	5.4
Urban areas		
Participation rate **	83.9	91.8
Worked in 1990 or 1991 †	93.5	95.4
Employment rate	72.5	87.7
Unemployment rate	14.4	4.8
Rural areas		
Participation rate **	80.9	91.0
Worked in 1990 or 1991 †	91.8	95.3
Employment rate	65.2	85.5
Unemployment rate	21.5	6.4

Source: Census of Canada, 1991

* Includes trade certificates, college/CEGEP diplomas, and university certificates and degrees.

** Experienced labour force (see Definitions).

† Adults who worked any time from January 1, 1990 to the 1991 Census reference week regardless of their labour force status in the reference week.

northerners aged 55 to 64 was 62%, compared with 52%. Among persons 65 and over, the rates were also higher (16% versus 9%), probably because of the smaller proportion of retired persons in the North.

The lower employment rate among older northern men reflects the trend in the rest of Canada. The rate for northern men aged 55 to 64 declined from 70% in 1971 to 61% in 1991. Similarly, employment for other Canadian men in this age group dropped from 76% to 59%.

Wildlife harvesting

For many people, working in the North involves more than paid employment. Wildlife harvesting (that is, fishing, hunting and trapping) is important for many residents. The 1994 Northwest Territories Labour Force Survey reported that in 1993, 27% of persons aged 15 and over hunted or fished, 14% produced crafts, and 6% trapped animals.

Wildlife harvesting is especially important to Aboriginal people. According to the 1991 Aboriginal Peoples Survey, over 30% of respondents participated in unpaid land-use activities to support themselves or their families. As well, 26% received money for participating in land-use activities.

Fishing, hunting and trapping activities are largely outside the northern market economy. Fishing and trapping (excluding tourism) contribute less than 1% to the total market economy of the North, and have dropped in value from \$6.6 million in 1989 to \$2.7 million in 1995 (1986 dollars).

Land of opportunity

The Yukon and Northwest Territories have offered solid employment opportunities over the past decade in several industries and occupations. Paid employment in construction and education has more

Table 8
Labour force activity by migration status

	Northwest Territories		Yukon	
	Recent migrants	Long-term residents	Recent migrants	Long-term residents
%				
Participation rate	90.0	68.0	86.9	79.3
Employment rate	84.7	56.8	77.2	69.9
Unemployment rate	5.8	16.5	11.2	11.9

Source: *Census of Canada, 1991*

Table 9
Labour force activity of persons aged 15 to 24 years

	1971	1976	1981	1986	1991
%					
Yukon and N.W.T.					
Participation rate	53.6	61.4	64.1	62.3	63.5
Employment rate	49.3	54.5	51.0	45.8	47.4
Unemployment rate	8.0	11.5	20.6	26.3	25.4
Rest of Canada					
Participation rate	57.4	61.4	69.0	69.6	70.7
Employment rate	48.6	52.8	55.6	55.1	55.3
Unemployment rate	15.3	13.9	19.4	20.9	21.9

Source: *Census of Canada*

than doubled since the early 1980s. Employment in the goods sector increased substantially in the 1980s, but declined early in the 1990s. Renewed job growth in this sector owes much to new development and to the re-opening of several mines, as well as to continuing growth in the construction industry. Canada's first diamond mine, at Lac de Gras in the Northwest Territories, is expected to be operating by 1998. With revenue of \$500 million a year expected over the 25-year life of the mine (Haliechuk, 1995), the North seems poised for another mineral "rush."

While much of the North's fortune still remains with mines and oil wells, the growing service sector will likely provide greater stability to the area. As in the rest of Canada, this sector has had more

sustained employment growth and less cyclical variation than the goods sector. The continued development of the public sector, as well as the creation of Nunavut (Stout, 1997) and the reorganization of the western portion of the Northwest Territories (as yet unnamed) may lead to increased employment in services.

The growth in employment has taken place largely in urban areas, where opportunities have sometimes exceeded those in many southern cities. Meanwhile, northern rural areas have among the lowest employment rates in the country. These disparities are clearly reflected in the distribution of earnings. The accompanying article in this issue, "Northern earnings and income," elaborates on these issues. □

■ Notes

1 In the Northwest Territories, 97% of persons who reported Aboriginal origins also identified with their ancestry. The proportion in the Yukon was 70%.

2 Two other sources of earnings data are the Census of Canada and the Survey of Consumer Finances. The SCF does not provide estimates for the Yukon or Northwest Territories.

3 The Survey of Employment, Payrolls and Hours shows a 1990 peak in the annual average estimate of paid employment. According to the Labour Force Survey, the figure for all workers (including employees, self-employed and unpaid family workers) has surpassed that peak.

4 Labour force estimates include paid workers, self-employed workers, unpaid family workers, and unemployed persons.

5 The alternative measure of unemployment for the Yukon was not available for this analysis.

6 The public sector includes employees working for federal, territorial or local government, agencies or other government bodies, government business enterprises, or publicly owned institutions such as hospitals or schools.

7 Historical comparisons are based on definitions of labour force activity used in the 1971 Census, which have remained fairly consistent. For further information on concepts used in the 1971 Census, 1991 Census and monthly Labour Force Survey, see Statistics Canada, 1992.

Haliechuk, R. "Dia Met submits diamond mine data." *Toronto Star*. July 25, 1995, B2.

Statistics Canada. *1996 Census Preview of Products and Services*. Catalogue no. 92-350-PPB. Ottawa, 1996a.

---. *Provincial Gross Domestic Product by Industry 1984-1995*. Catalogue no. 15-203-XPB. Ottawa, 1996b.

---. *Profile of Canada's Aboriginal Population: Aboriginal Data*. Catalogue no. 94-325-XPB. Ottawa, 1995.

---. *1991 Census Dictionary*. Catalogue no. 92-301-XPE. Ottawa, 1992.

Stout, C. "Nunavut: Canada's newest territory in 1999." *Canadian Social Trends* (Statistics Canada, Catalogue no. 11-008-XPE) no. 44 (Spring 1997).

■ References

Grenon, L. "Northern earnings and income." *Perspectives on Labour and Income* (Statistics Canada, Catalogue no. 75-001-XPE) 9, no. 1 (Spring 1997): 28-32.

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Appendix
General facts about the North

	Northwest Territories	Yukon	Canada
Geography			
Area in square kilometres	3,426,320	483,450	9,970,610
% of Canada	34.4	4.8	100
Persons per 100 square kilometres (July 1, 1996p)	2	7	301
People			
% of Canada (July 1, 1996p)	0.2	0.1	100
% in urban areas (1991)	36.7	58.8	76.6
Women as a % (July 1, 1996p)	48.0	48.7	50.5
Population distribution (%) by age (July 1, 1996p)			
Under 15 years	32.3	23.6	20.0
15 to 64 years	64.6	71.9	67.8
65 years and over	3.1	4.5	12.2
% with mother tongue other than English or French			
1951	72.6	23.9	11.8
1991	42.3	8.1	14.2
% with Aboriginal origins and/or Indian registration in 1991	61.8	23.4	3.8
Aboriginal population in 1991	35,390	6,385	...
Single origin	29,415	3,780	...
Multiple origins	5,975	2,610	...
Inuit	21,355	170	...
Single origin	18,430	60	...
Multiple origins	2,925	110	...
Métis	4,315	565	...
Single origin	2,315	165	...
Multiple origins	2,000	400	...
North American Indian	11,100	5,870	...
Single origin	8,670	3,550	...
Multiple origins	2,430	2,320	...
Fertility rate (1994) (live births per woman)	2.74	1.73	1.66
Infant mortality rate (1994) (per 1,000 live births)	15.6	2.3	6.3
Median age on July 1, 1996p	25.7	32.5	35.2
Life expectancy in years (1994)	73.6	74.9	78.2
Population			
Circa 1898 (Dawson)	...	30,000	...
1921	8,100	4,100	8,787,400
July 1, 1996p	66,570	31,450	29,963,630
Capital cities:			
Whitehorse, Y.T. (June 1996)	...	23,540	...
Yellowknife, N.W.T. (June 1991)	15,180	...	...
Iqaluit, * Nunavut (June 1991)	3,550	...	...

Sources: *Census of Canada, Demography Division, Health Statistics Division, Yukon Bureau of Statistics, Northwest Territories Bureau of Statistics, Natural Resources Canada, The Canadian Encyclopedia.*

* This community has been named capital of the new territory, which attains its official status in 1999.

Northern earnings and income

Lee Grenon

The North has long been viewed as a land of opportunity for job seekers with the right skills and knowledge. Although the northern labour force is small, the rate of job growth over the past two decades in some industries has been strong.

This article compares earnings and incomes of northern Canadians with those of other Canadians, and shows who earns what in the North. It also examines income sources of Northerners and Canadians in general.

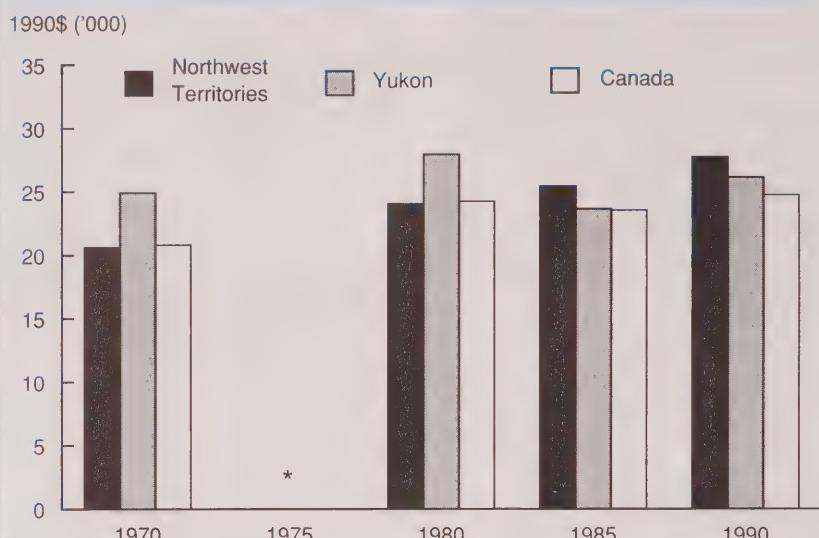
Average earnings in the 1970s and 1980s

From 1970 to 1990, the Northwest Territories experienced the highest rate of growth in employment income (earnings) in Canada. Its average earnings increased by 35% after adjustment for inflation (Chart A). Early in the period, average earnings had been highest in the Yukon. By the mid-1980s, however, earnings in this territory had begun to decline. In 1990, they were only 5% higher than in 1970, while in Canada overall¹ they grew 19%. (Data sources and definitions used in this analysis are outlined in the preceding article, "Employment and industrial development in the North.")

During the first decade of the period, Canadians' average employment income grew by 17%. The same was true for the Northwest Territories. This growth was slower in the Yukon (12%), although average earnings continued to be the highest of any province or territory.

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Chart A
From 1970 to 1990, N.W.T. average earnings increased by 35%.



Source: Census of Canada, 1971, 1981, 1986, 1991.

* Data not available.

The recession of the early 1980s contributed to a reduction of earnings for many Canadians, especially in the Yukon, where average earnings dropped 15% from 1980 to 1985. On the other hand, average employment income in the Northwest Territories was 6% higher than it had been five years earlier.²

The North led the growth in earnings during the late 1980s. Both the re-opening of the Faro lead-zinc mine and related economic growth in the Yukon were reflected in the 10% increase in average earnings from 1985 to 1990. The Northwest Territories reported the highest average earnings of any province or territory in 1990, enjoying a 9% increase.

Median earnings in the 1990s

Earnings declined in Canada in the early 1990s. Median employment income³ among taxfilers was lower in 1994 than it had been in 1990: 6% lower in the Yukon, 5% in the Northwest Territories, and 4% in all of Canada (Chart B). Despite the larger decline in the North, median employment income continued to be higher there than in Canada overall. In 1994, median earnings were 20% higher in the Northwest Territories and 13% higher in the Yukon. The cost of living, however, is substantially higher in the North (see *Some measures of the cost of living in the North*).

Some measures of the cost of living in the North

Earning levels should not necessarily be equated with consumer purchasing power. Prices for consumer goods and services (that is, the cost of living) differ considerably between the North and the rest of Canada. Described below are several measures that give a general indication of price differences between selected cities in the North and elsewhere in the country.

Despite differences in the cost of living, inflation rates for Whitehorse (Y.T.) and Yellowknife (N.W.T.) are comparable with those for Canada as a whole. Between 1983 and 1995, the **Consumer Price Index** annual average for all items increased by 45.0% in Whitehorse, 51.9% in Yellowknife, and 50.8% in Canada as a whole.

To measure price differences between Yellowknife and Edmonton, the Northwest Territories Bureau of Statistics produces the **Spatial Price**

Index ($\text{SPI Edmonton} = 100$). Calculated each June, the SPI covers 90% of Edmonton's household expenditures as measured by the Consumer Price Index. Its major exclusion is mortgage interest payments. The SPI for Yellowknife was 136.3 in 1985, 131.2 in 1990 and 134.8 in 1993.

Differences between northern and southern costs of living vary across the North. One indicator of this variation is the **Living Cost Differential Allowance Index**. Several LCDs are produced by Statistics Canada to provide a range of price differentials between "isolated posts" and their respective "base" cities. For example, in 1994 the LCD index range for Yellowknife was 135.0 to 139.9. This means that prices for the selected "basket" of goods and services were roughly 35% to 40% higher in Yellowknife than in its base city of Edmonton.

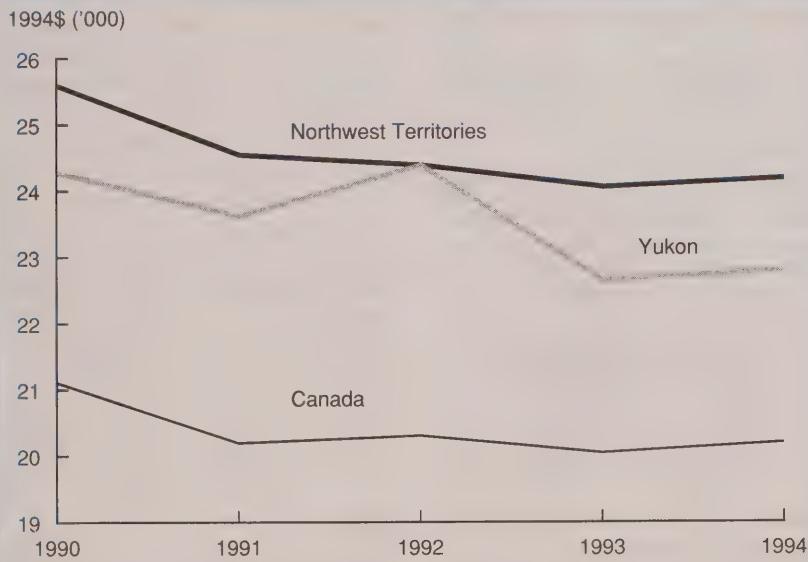
Across the Northwest Territories, index ranges for isolated posts varied from 120.0 to 124.9 for Fort Liard (Vancouver = 100) to 205.0 to 209.9 for Sachs Harbour (Edmonton = 100). In the Yukon, LCD index ranges varied from 115.0 to 119.9 in Whitehorse to 175.0 to 179.9 in Old Crow (Vancouver = 100).

It is important to note that LCD indexes apply only to federal government employees and do not necessarily reflect buying patterns for other households in the region. The LCD basket of goods and services includes groceries and other items ordered from outside the community. Several important components of household expenditure are excluded from the LCD basket, namely, shelter, clothing, furniture, vehicle purchase, and restaurant meals.

Northern variations

The differences in annual earnings between the North and the rest of Canada are related partly to differences in the workforce distribution by sex, age and occupation (Grenon, 1997). Another important determinant is volume of work (that is, weekly hours of work and weeks of work in the year). A lower percentage of employed Northerners than workers in Canada worked full year full time. Annual earnings for those who did so were higher, however. In 1990, 48% of persons aged 15 and over in the Northwest Territories worked full year full time, 47% did so in the Yukon, and 52%, in Canada as a whole. Average employment income for those persons was \$42,300, \$37,300 and \$33,700, respectively.

Chart B
Median earnings declined in the 1990s.



Source: Small Area and Administrative Data Division

Earnings also vary by occupation. In 1990, average employment income for most occupations was higher in the North than across Canada, with only a few exceptions, including sales and social sciences (Table 1).

Women and youths

In 1990, women on average earned 35% more in the Northwest Territories and 22% more in the Yukon than they did in Canada overall (Table 2). Men earned 22% more in the Northwest Territories and 7% more in the Yukon.

Furthermore, the male-female wage gap is less pronounced in the North than in Canada overall. At the beginning of the 1990s, women in the North earned 63 cents to every dollar earned by men. Across Canada, they made only 58 cents. By 1994, they were earning 67 cents in the Northwest Territories, 78 cents in the Yukon, and 62 cents across Canada (Table 3).

The gap has narrowed mainly because men's earnings declined in the early 1990s, particularly in the Yukon, where their median earnings dropped by 16% from 1990 to 1994 (Table 4). In contrast, Yukon women's earnings increased 4%. In 1992, men in the Yukon lost a major employer, the lead-zinc mine in Faro. This accounts for their drop in median employment income between 1992 and 1993.

Despite the higher unemployment rate among northern youths (aged 15 to 24), young people who work full year full time earn considerably more than youths in the rest of Canada; their average 1990 earnings were 33% higher in the Northwest Territories, and 24% higher in the Yukon (Table 5). These regional differences diminish with age. Among workers aged 55 to 64, average 1990 earnings were 18% higher in the Northwest Territories and 4% higher in the Yukon.

Table 1

Average employment income of persons aged 15 years and over working full year full time, by major occupational group, 1990

	Northwest Territories	Yukon	Canada
	1990 \$		
All occupations	42,300	37,300	33,700
Managerial and administrative	51,300	43,800	44,900
Natural sciences, engineering and mathematics	52,500	50,300	43,200
Social sciences	43,300	41,600	45,000
Teaching	44,600	41,800	42,400
Medicine and health	49,800	41,500	39,500
Artistic, literary and recreational	34,200	27,900	32,700
Clerical	31,100	30,100	25,100
Sales	31,000	31,200	31,800
Service	34,400	27,800	24,500
Mining, quarrying, oil and gas	68,400	43,000	45,400
Processing	43,400	x	31,400
Product fabricating, assembling and repairing	43,000	38,400	30,000
Construction	42,400	37,400	35,100
Transport equipment operating	35,700	37,800	33,100
Material handling	36,700	x	28,700
Other crafts and equipment operating	47,700	x	35,200

Source: Census of Canada, 1991

Table 2

Average earnings for men and women aged 15 years and over working full year full time, 1990

	Northwest Territories	Yukon	Canada
	1990 \$		
Both sexes	42,300	37,300	33,700
Men	47,100	41,400	38,600
Women	35,100	31,800	26,000

Source: Census of Canada, 1991

Territories and \$28,000 in the Yukon (Table 6).

Some of the gap is related to differences in work activity. In 1990, 58% of earners of non-Aboriginal origin worked full year full time, compared with 33% of Aboriginal earners. However, even among those who worked full year full time, the average 1990 employment income was \$31,900 among the latter, compared with \$43,300. These differences are to some extent explained by the greater rural

Ethnic origin and length of stay make a difference

An important feature of the North's income profile is its distribution by ethnic origin (Grenon, 1997). For example, in 1990, although 37% of adult earners were of Aboriginal origin, they received only 23% of total employment income. Their average earnings were around \$17,000. Non-Aboriginal workers earned \$37,400 in the Northwest

Table 3 Women's median earnings as a percentage of men's

	N.W.T.	Yukon	Canada
	%		
1990	63	63	58
1991	64	67	60
1992	66	67	62
1993	67	80	62
1994	67	78	62

Source: Small Area and Administrative Data Division

representation and lower education levels of the Aboriginal population. Variations in income and labour force activity exist within Aboriginal groups as well, and are related largely to regional economic activity (Table 7).

Earnings also vary with length of residency. In the Yukon, longer-term residents⁴ tend to have higher annual earnings than do recent migrants (Table 8). In contrast, recent migrants to the Northwest Territories generally have higher annual earnings than those who have lived in the area for some time. This likely reflects the migration of skilled workers and professionals into an area with a relatively small urban population.

Income from all sources

Earnings are but one source of income. Retirement and investment income, government transfer payments and other sources⁵ also contribute to the total income for individuals, and have become more important over the past two decades (Table 9). From 1970 to 1990, income from wages, salaries and commissions, and net income from self-employment and family farms declined from 94% to 90% of total income in the Northwest Territories, and from 94% to 87% in the Yukon. Across Canada, it dropped from 86% to 78%. This trend appears to be continuing. Among taxfilers in 1994, total income from employment was 86% in the Northwest Territories, 82% in the Yukon, and 72% across Canada. Northerners still rely less on non-employment income than do other Canadians, partly because fewer of them are retired and receiving pension and retirement income.

Yukon taxfilers' median total income has declined substantially since 1992. Even so, it continues to lead the country. In 1994, it was \$22,900, compared with \$22,700 in the Northwest Territories and

Table 4
Median taxfiler employment income by sex

	Northwest Territories		Yukon		Canada	
	Men	Women	Men	Women	Men	Women
1994 \$						
1990	31,600	19,800	31,300	19,100	27,300	15,900
1991	30,300	19,400	28,800	19,400	25,900	15,400
1992	29,600	19,400	29,600	19,800	25,600	15,800
1993	28,900	19,400	30,000	20,100	25,300	15,600
1994	29,100	19,600	25,600	19,900	25,400	15,800
% change from 1990 to 1994						
	-7.9	-1.0	-15.5	4.0	-7.1	-0.4

Source: Small Area and Administrative Data Division

Table 5
Average employment income for persons aged 15 years and over working full year full time, by age group, 1990

	Northwest Territories	Yukon	Rest of Canada	As a % of the rest of Canada	
				Northwest Territories	Yukon
				1990 \$	%
All ages	42,300	37,300	33,700	125	111
15-24	25,500	23,700	19,100	133	124
25-34	40,000	35,300	30,200	133	117
35-44	47,600	40,100	37,000	128	108
45-54	47,000	40,900	38,700	122	106
55-64	42,700	37,600	36,100	118	104
65 & over	36,500	30,500	29,300	125	104

Source: Census of Canada, 1991

\$18,500 across Canada. In urban areas, especially, Northerners reported high median incomes: \$36,700 in Yellowknife and \$25,300 in Whitehorse. Figures in selected southern census metropolitan areas were \$24,500 in Ottawa,⁶ \$20,600 in Toronto, \$19,900 in Vancouver, and \$17,800 in Montréal.

Conclusion

Earnings in the Yukon are among the highest in the country, and those in the Northwest Territories have increased substantially since the 1970s. High wages and salaries

Table 6
Average employment income by ethnic origin and work activity, 1990

	Northwest Territories	Yukon	1990 \$	
			Aboriginal origins	Non-aboriginal origins
Worked in 1990	16,900	17,500	Worked in 1990	37,400
Full year full time	32,400	29,400	Full year full time	46,900
Part year or part time	9,300	12,200	Part year or part time	20,800
				17,000

Source: Census of Canada, 1991

**Table 7
Average employment income of workers by Aboriginal origin
and work activity, 1990**

	Worked full year full time		Worked part year or part time		% of workers who worked full year full time	
	Northwest Territories	Yukon	Northwest Territories	Yukon	Northwest Territories	Yukon
	1990 \$				%	
Inuit						
Single origin	29,400	-	8,000	15,100	32	-
Multiple origin	36,600	20,200	10,300	15,900	29	60
Métis						
Single origin	37,000	32,900	12,800	12,400	43	39
Multiple origin	39,300	32,500	14,100	13,600	45	38
North American Indian						
Single origin	30,400	28,700	8,900	11,300	28	31
Multiple origin	40,600	30,100	13,500	13,000	42	30

Source: *Census of Canada, 1991*

3 Earnings and other income from taxfilers are generally presented as median values. Historical census data for earnings are generally presented as averages. Although median and average earning levels differ, the trends are similar.

4 Longer-term residents are persons aged 15 and over who resided in the same territory during the 1986 and 1991 Censuses. In contrast, recent migrants moved to one territory or province from another territory, province or country between the censuses.

5 Government transfer payments include Old Age Security and Guaranteed Income Supplement, Canada and Quebec Pension Plan benefits, Employment Insurance benefits, Family Allowance, Federal Child Tax Credit, and other income from government.

Other sources include investment income, retirement income, and other money income such as alimony, child support, severance pay and strike pay.

6 This refers only to the Ottawa portion of the Ottawa-Hull census metropolitan area.

**Table 8
Median employment income
by migration status, 1990**

	Northwest Territories	Yukon	Canada
	1990 \$		
Recent migrants	30,000	21,900	16,900
Longer-term residents	18,000	23,900	20,100

Source: *Census of Canada, 1991*

**Table 9
Distribution of total income by source**

	Northwest Territories			Yukon			Canada		
	1970	1980	1990	1970	1980	1990	1970	1980	1990
%									
Employment income	93.8	91.6	90.1	94.1	91.4	86.9	86.3	82.1	77.8
Transfer payments *	4.3	5.6	7.5	3.8	4.5	7.8	6.6	8.4	11.4
Other income *	1.8	2.8	2.4	2.1	4.2	5.3	7.1	9.5	10.8

Source: *Census of Canada, 1971, 1981, 1991*

Note: Because of rounding, totals may not add to 100.

* See note 5.

accrue to certain skilled workers in the natural resources and service industries. Not all northern workers have these opportunities, however.

Major gaps in earnings persist between Aboriginal and non-Aboriginal workers, and between recent migrants and longer-term residents. Much of the difference is related to volume of work, occupation, education, age and sex, as well as to labour markets. □

■ References

Gartley, J. *Earnings of Canadians*. Focus on Canada. Catalogue no. 96-317-XPE. Ottawa: Statistics Canada, 1994.

Grenon, L. "Employment and industrial development in the North." *Perspectives on Labour and Income* (Statistics Canada, Catalogue no. 75-001-XPE): 9, no. 1 (Spring 1997): 18-27.

Sizing up employment in clothing manufacturing

Katherine Marshall, Denise Guèvremont and Stéphane Pronovost

From 1989 to 1994 employment in clothing manufacturing dropped by 28% (-31,800 jobs), compared with a 14% decline for all manufacturing. As with many manufacturing industries, this decline has been linked to a number of factors, such as the strength of the economy, market demand for the product, technological advances, trade liberalization and the industry's ability to compete against imports. Clothing has been particularly affected by trade liberalization, having once been one of the most trade-protected industries. Both the 1989 Canada-U.S. Free Trade Agreement (FTA) and the 1994 North American Free Trade Agreement (NAFTA) have gradually reduced tariffs on clothing imports from the United States and Mexico.¹ And in 1995, the Multi-Fibre Arrangement (MFA) began a 10-year phase-out of quotas on imports from low-wage countries.

This article examines employment trends in the clothing manufacturing industry, and reasons for the steady decline in jobs since the late 1980s. Those employed in the industry are profiled, and factors most likely to affect future employment trends are discussed (see *Data sources* and *Definitions*).

Employment is declining

Employment in clothing manufacturing is tied to the industry's ability to compete in the emerging global market, both in the develop-

Data sources

The **Annual Survey of Manufactures** surveys all establishments primarily engaged in manufacturing in Canada. Although some establishments may engage in wholesale trade, the bulk of their activity must be in the manufacturing process. Depending on establishment size, short and long questionnaires and tax records are used to collect information on shipments, employment, salaries and wages, cost of materials and supplies used, cost of fuel and electricity used, inventories and commodity data.

The **Business Conditions Survey** is a voluntary survey mailed to more than 9,000 manufacturing establishments every January, April, July and October. Among other things, the survey asks manufacturers if shortages of skilled and unskilled labour have impeded their production. Responses are weighted by the shipment value of each establishment.

ment of new export markets and in the expansion of existing ones. Quebec has a marked interest in the success of the industry, as it is home to more than half of all clothing manufacturing jobs in the country (see *Regional concentration*).

From 1981 until 1989, employment in clothing manufacturing remained relatively steady, with a net loss of 1,100 jobs; since that time there have been annual decreases (Chart A).³ By 1994, employment stood at 80,400, down from 112,200 in 1989. During those five years employment in production work dropped 31%, compared with a 10% reduction in management positions.

Similarly, the number of clothing manufacturing establishments, which numbered 2,686 in 1989, fell

The **census** collects labour market data from a 20% sample of the population aged 15 and over, excluding residents of institutions.

International trade data from administrative information from Revenue Canada, Customs and Excise and from customs brokers and importers help to calculate the movement of merchandise into or out of Canada (imports and exports).

The **1993 Survey of Innovation and Advanced Technology** used a sample survey to cover all sizes of manufacturing establishments in Canada. The information collected dealt with firm characteristics, research and development, innovative behaviour, the intensity of technology use, and the benefits and problems of adopting technologies.

to 1,760 by 1994, a 34% decrease. This steady decline is not unique to Canada (see *International comparisons*).

The steep drop in employment from 1989 to 1992 coincided with the downturn of the economy. However, the clothing industry fared much worse than other manufacturing industries, dropping 25% compared with 14%. The relatively severe employment loss may be due, in part, to the introduction of the FTA, as apparel imports from the United States increased consistently following its introduction on January 1, 1989 (Industry Canada, 1994).⁴ However, from 1991 onwards Canada has countered this import increase with a steady growth in clothing exports. This may be part of the reason for the slower rate of employment loss since 1992.

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Definitions

Advanced manufacturing technology (AMT): 22 new manufacturing technologies belonging to six functional groups. The functional groups and their accompanying individual technologies (in parenthesis) include

- design and engineering (computer-aided design (CAD) and engineering; CAD output to control manufacturing machines; digital representation of CAD output);
- fabrication and assembly (flexible manufacturing cells/systems; numerically controlled and computer-numerically controlled machines; materials working lasers; pick and place robots; other robots);
- automated material handling systems (automated storage/retrieval systems; automated guided vehicle systems);
- inspection and communications (automatic inspection equipment for incoming materials; automatic inspection equipment for final products; local area network for technical data; local area network for factory use; inter-company computer network; programmable controllers; computers used for control in factories);

- manufacturing information systems (materials requirement planning; manufacturing resource planning);
- integration and control (computer integrated manufacturing; supervisory control and data acquisition; artificial intelligence/expert systems).

Clothing manufacturing: establishments primarily engaged in manufacturing clothing. This category, which is major group 24 of the Standard Industrial Classification (1980 SIC), includes men's and boy's clothing (SIC 243), women's clothing (SIC 244), children's clothing (SIC 245) and other clothing and apparel, such as sweaters, occupational clothing, gloves, hosiery, fur goods and foundation garments (SIC 249). Clothing manufacturing is also referred to as the apparel or garment industry.

Employment in clothing manufacturing: includes salaried employees in executive, administrative and sales positions, and production workers paid by the hour. Production positions include markers, cutters, sewers, fusers,

pressers and cleaners, stylists and designers, stock keepers, shippers, packers, sample makers, maintenance workers and other related production workers.

Establishment: the smallest unit capable of reporting certain specified input and output data. For example, workers who have started a home business of selling home-made clothing will not be included.

Registered contractors and sub-contractors hired by an establishment to produce clothing are included in the count. However, any contractors or sub-contractors who, for example, have been paid in cash to avoid taxation, cannot be counted.²

Immigrants: persons who are, or have been, landed immigrants in Canada. A landed immigrant is not a Canadian citizen by birth.

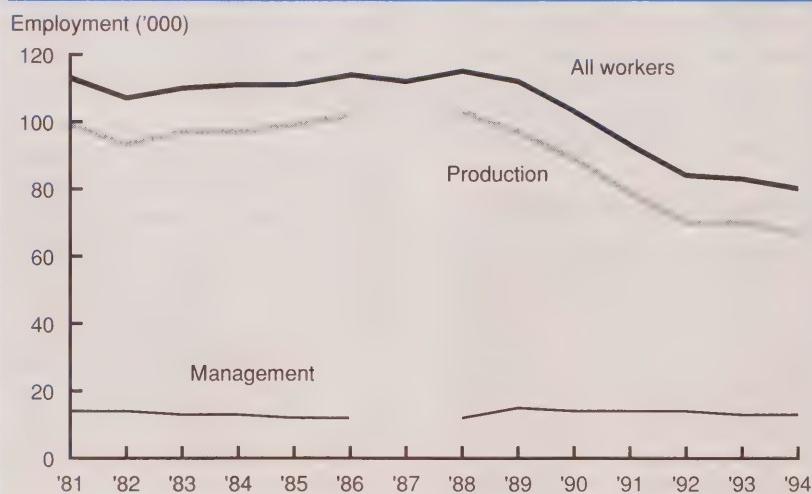
Home workers: refers to paid employees who do most of their work at home.

Employment is female-dominated and low-paying

A striking feature of clothing manufacturing is its high proportion of female employees: three out of four workers, compared with just one in four in all other manufacturing industries (Table 1). Also, 50% are immigrant workers, compared with 24% in other manufacturing. In fact, 37% of clothing manufacturing employees are female immigrants compared with just 7% in all other manufacturing. Proportionately more clothing workers than other manufacturing employees speak neither English nor French (8% compared with 1%), have less than high school graduation (54% compared with 33%), and work at home⁵ (5% versus 2%). Clothing manufacturing also offers the lowest hourly wage for production workers and the lowest average annual salary for management

Chart A

Employment in clothing manufacturing has dropped since the late 1980s.



Source: Annual Survey of Manufactures

Note: A change in commodity classification systems introduced a break in the time series for 1987. Only total employment estimates were derived for 1987.

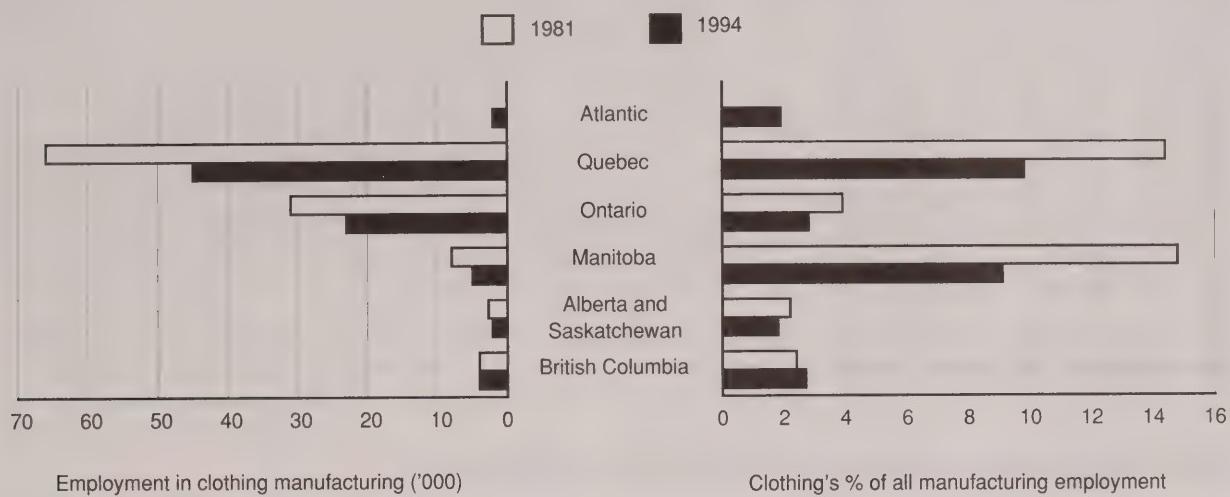
Regional concentration

Clothing manufacturing has a very high geographical concentration, with 95% of jobs located in just four provinces: Quebec (45,200 jobs or 56%), Ontario (23,000 jobs or 29%), Manitoba (4,600 jobs or 6%) and British

Columbia (4,000 jobs or 5%). Although their shares are relatively small, British Columbia and the Atlantic region are the only areas to show an increase in clothing manufacturing employment from 1981 to 1994. These

jobs are more important to Quebec and Manitoba (where they account for 10% and 9%, respectively, of all manufacturing jobs) than to other provinces (less than 3%).

The bulk of clothing manufacturing jobs are in Quebec.



Source: Annual Survey of Manufactures

workers of any manufacturing industry - \$8.92 and \$36,500, respectively. For all other manufacturing the average hourly pay is \$16.11 and the average annual managerial salary is \$47,800. (Notably, the highest hourly wage and annual salary are found in tobacco manufacturing - \$27.98 per hour and \$67,000.)

The high proportion of workers who have low levels of education and/or difficulties with English or French indicates that clothing manufacturing generally offers lower-skill entry-level employment. One-third of clothing workers are sewing machine operators, a lower-skilled job with few language requirements.

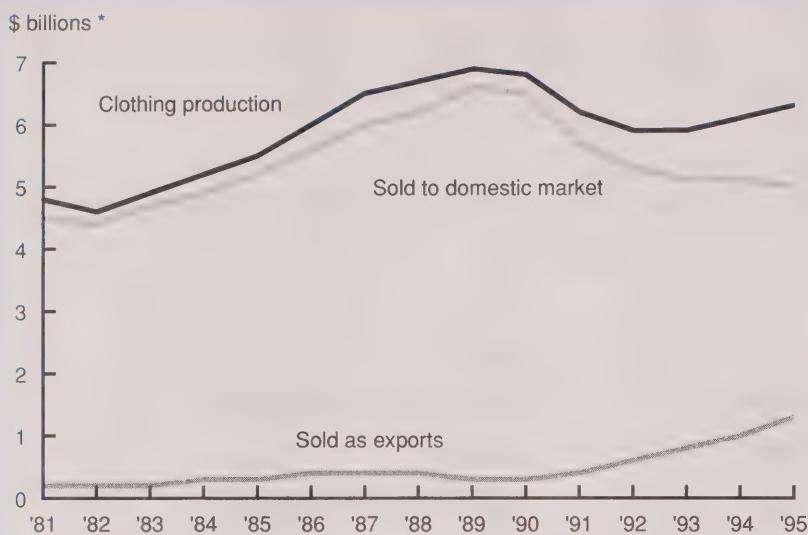
Exports and imports both on the rise

Employment levels in the apparel industry are tied to both domestic and foreign demand for Canadian-made clothing. Similar to the trend in employment, the production of Canadian-made clothing increased throughout most of the 1980s. Production peaked in 1989 at \$6.9 billion, followed by three years of decline to \$5.9 billion in 1992. Unlike the trend in employment, however, clothing output recovered in 1993, 1994 and 1995, pushing production to over \$6.2 billion. Exports have increased steadily since 1990 and reached \$1.3 billion in 1995, accounting for the production gains (Chart B). (Over 90% of

the 1995 exports went to the United States, with Japan [2%] and the United Kingdom [1%] a distant second and third.)

Domestic manufacturers' share of the Canadian market has declined steadily since 1989 while foreign producers' continued to rise. In 1989, imports accounted for only 28% of the Canadian clothing market; by 1995, that share had increased to 42% (Chart C). In 1989, when the FTA was brought into force, imported clothing from the United States accounted for 7% of all imports; by 1995 it accounted for 18%. The only other country to export more clothing to Canada was the People's Republic of China. However, Canada's exports

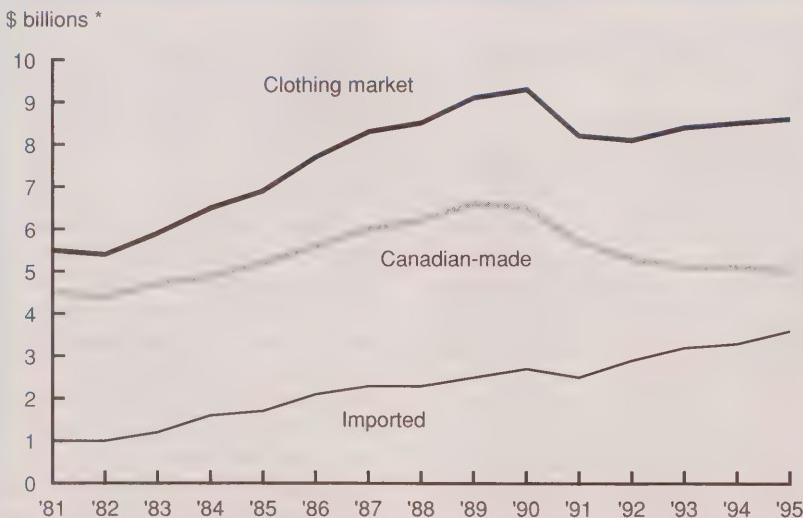
Chart B
Exports spurred the recent rise in clothing production.



Sources: Annual Survey of Manufactures and International Trade Division

* Measured by the value of total shipments.

Chart C
Imports accounted for 42% of the Canadian clothing market in 1995.



Sources: Annual Survey of Manufactures and International Trade Division

* Measured by the value of total shipments.

Table 1
Selected characteristics * of paid workers

	Clothing	Non-clothing
Women	75	26
Immigrants	50	24
Female immigrants	37	7
Know neither official language	8	1
Less than high school graduation	54	33
Home workers **	5	2
Hourly wage		
Production workers	\$8.92	\$16.11
Annual salary		
Management	\$36,500	\$47,800

Sources: Census of Canada, 1991 and Annual Survey of Manufactures, 1994

* All non-wage characteristics are derived from census data and include both production and management workers.

** Primary place of work is at home.

to the United States have helped increase its positive trade balance with that country – from \$100 million in 1989 to \$550 million in 1995. This has helped reduce Canada's negative trade balance with all countries from \$2.5 billion in 1992 to \$2.3 billion in 1995 (Industry Canada, 1996).

The annual wholesale value of both imported and Canadian-made clothing increased until 1989. Since then, only the former has continued to climb. The decline in the Canadian market in the early 1990s coincided with the recession. Only slight gains in the past few years suggest that Canadians are still buying fewer or less expensive garments than they once did.

Technology affects employment

All manufacturing industries have been affected to varying degrees by

International comparisons

Clothing manufacturing employment has diminished in many industrialized countries, including Canada. This decline reflects a shift in world apparel production in favour of countries with lower costs. Many of the latter, through increased exports to developed countries, have boosted their employment levels. Their share of world exports has risen from 10% in 1955 to 58% in 1992 (Dickerson, 1995).

Although Canadian wages in clothing manufacturing are relatively low compared with other domestic manufacturing, they are similar to those in other industrialized countries. Canada ranks high when monthly wages are adjusted for purchasing power parity.

Monthly wages in clothing manufacturing ranked according to purchasing power parity (PPP), selected countries

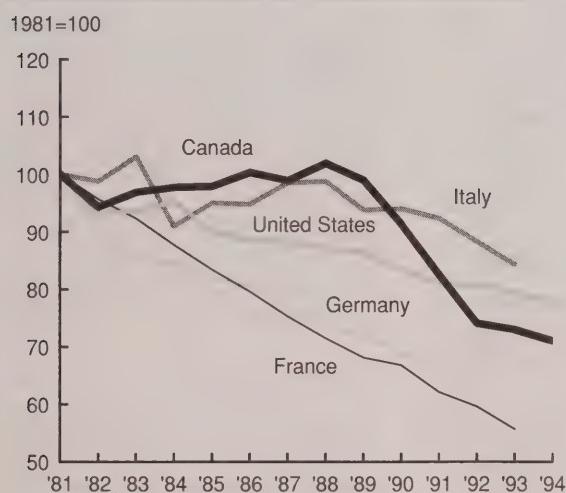
	Monthly wage	Monthly wage PPP * adjusted
	US\$	
Germany, 1994	1,555	1,197
Denmark, 1992 **	1,662	1,111
United States, 1994	1,101	1,101
New Zealand, 1994	971	1,087
Japan, 1993	1,709	1,031
Canada, 1993	1,007	1,028
Austria, 1994	1,259	1,024
United Kingdom, 1993	947	992
Belgium, 1992	1,068	921
France, 1993	1,056	910
Spain, 1992 **	938	848
Mexico, 1994	268	485
Portugal, 1989	194	320

Sources: International Labour Office (ILO); United Nations; OECD

* PPP is the rate at which the currency of one country must be converted into the currency of another country in order to buy an equivalent basket of goods and services.

** Includes footwear.

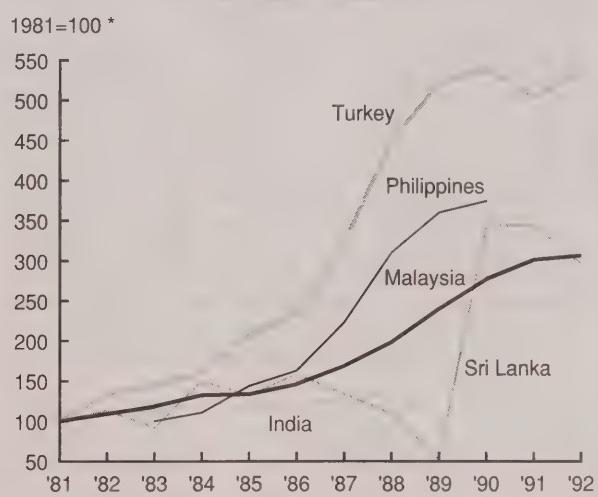
Employment in clothing manufacturing is declining in industrialized countries ...



Sources: Survey of Manufactures; ILO; OECD

* Except for the Philippines where 1983=100.

... and increasing in many developing countries.



the adoption of advanced manufacturing technology (AMT). In general, state-of-the-art machinery and computers tend to increase labour productivity⁶ (output per person). Certainly, this is true for clothing

manufacturing, although its adoption rate has been slower than many other industries' (see *Technology helps increase productivity*). However, since the production of clothing in Canada has seen only modest

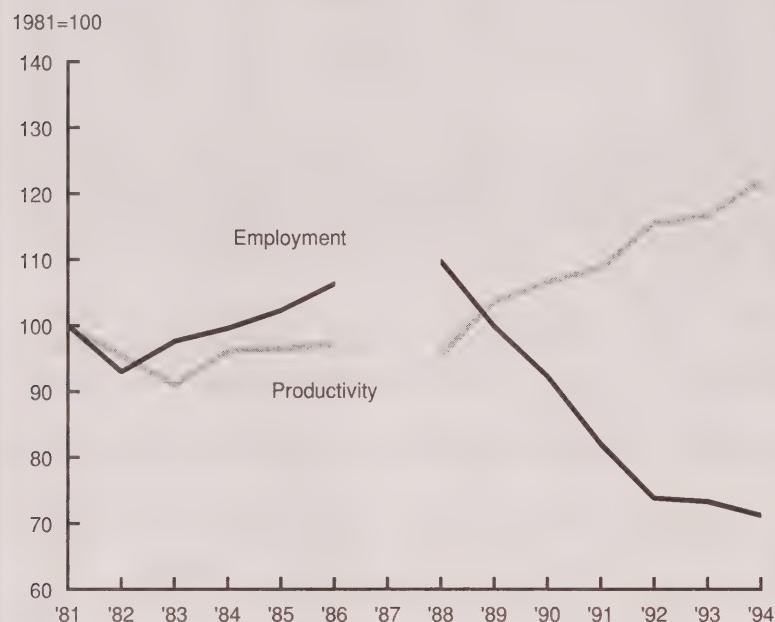
gains in recent years, the concurrent increase in productivity has resulted in a substantial decrease in the need for unskilled labour.⁷ At the same time, AMT has created a need for more skilled labour.

Technology helps increase productivity

Labour productivity in clothing manufacturing has shown annual gains from 1988, the same year employment began to decline. General findings from the 1993 Survey of Innovation and Advanced Technology

support these trends: improvements in productivity were cited as the most important benefit from adopting AMT, and reduction in labour requirements was the reason most often given by manufacturers for doing so.

Labour productivity * in clothing manufacturing has increased since 1988, while employment ** has dropped.



Sources: National Accounts and Annual Survey of Manufactures

* Measured as the ratio of gross domestic product at factor cost by paid production hours; in other words, output per labour unit.

** A change in commodity classification systems introduced a break in the time series for 1987.

Industry slow to adopt AMT

The initial stages of the garment manufacturing process (that is, designing, pattern-making and grading, and fabric-cutting) have been most affected by technology. Computer-aided design and computer-numerically controlled cutting systems have improved production efficiency. Also, automated garment-pressing equipment and sort-

ing and packaging systems have streamlined the final production phase. However, the assembly stage is still labour intensive, having seen few major technological developments. Certain sub-sectors have been quicker to adopt AMT, such as knitting (which is more capital intensive than other sub-sectors) and men's wear (which is less susceptible to style changes).

Despite these and other advances, Canada's clothing manufacturing industry lags behind that of Europe and the United States in adopting AMT (Kurt Salmon Associates, 1991). One reason for the lag may be that Canada lacks the major manufacturers of technology for clothing production.

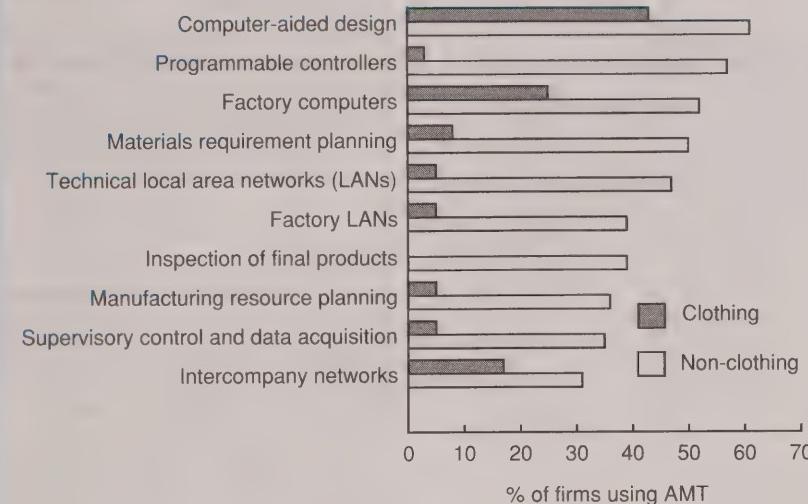
As of 1993, 46% of clothing manufacturers had adopted at least one AMT, compared with 82% of other manufacturers. While only 4% of firms had adopted 10 or more technologies, one-third of all other manufacturers had done so. Similarly, clothing shows much lower adoption rates for the 10 leading advanced technologies. For example, computer-aided design, the technology most embraced by clothing manufacturers (43%), is still used by a greater proportion of other manufacturers (61%) (Chart D).

Among the reasons for the industry's lower rate is the complexity of design required for machinery capable of converting soft, limp fabric into three-dimensional garments. Also, 90% of clothing manufacturing establishments employ fewer than 100 people, which suggests that many may not have the resources to invest in the newest technologies, or would do so only on a replacement or ad hoc basis.

Skilled workers in demand

In general, the acquisition of AMT creates a need for more technically trained people to manage and work with the new technologies. Where the clothing industry differs from other manufacturing is its problem in acquiring the skilled labour now in demand. In 1993, 47% of clothing firms using AMT reported a shortage of skills, compared with 24% of non-clothing firms. Furthermore, over the past 15 years clothing manufacturing has experienced more production difficulties because of skilled labour shortages

Chart D

Clothing manufacturing has adopted AMT * at lower rates.

Source: Survey of Innovation and Advanced Technology, 1993

* See Definitions.

(14% of firms reporting difficulties in 1995) than have other industries (4%) (Chart E). Clothing manufacturing also reports more unskilled labour shortages: 3% of firms in 1995, versus virtually no firms for all other manufacturing. The industry's low wage rate may help explain why some firms report such shortages even in recession periods, such as in the early 1980s and 1990s.

Low wages also account for the chronic shortage of skilled workers in the industry. And efforts to train some workers in new technologies and new work methods, such as team work, may be hampered by their education levels and relatively poor communication skills in English or French. Another reason for the shortage is the nature of training programs offered by Canadian schools; the few programs that exist focus more on fashion design than on technical skills. Data gathered from apparel schools showed that in 1995 only

390 of the 1,582 students graduated in production or management (Cariou, 1996). Finally, hiring and keeping skilled labour may be hindered by the "sweat shop" image of the clothing industry. Potential employees may be unaware of the increase in skilled job opportunities.

Tougher competition on the horizon

From 1974 to 1994, most clothing (and textile) products did not fall under the standard world trade rules of the General Agreement on Tariffs and Trade (GATT). Trade was governed by the Multi-Fibre Arrangement (MFA), which allowed participating countries to set quotas on imported textile and apparel products from individual countries. Quotas were intended to prevent developing countries from flooding industrialized markets with low-cost imports. (Canada currently has 43 bilateral clothing import restrictive agreements in

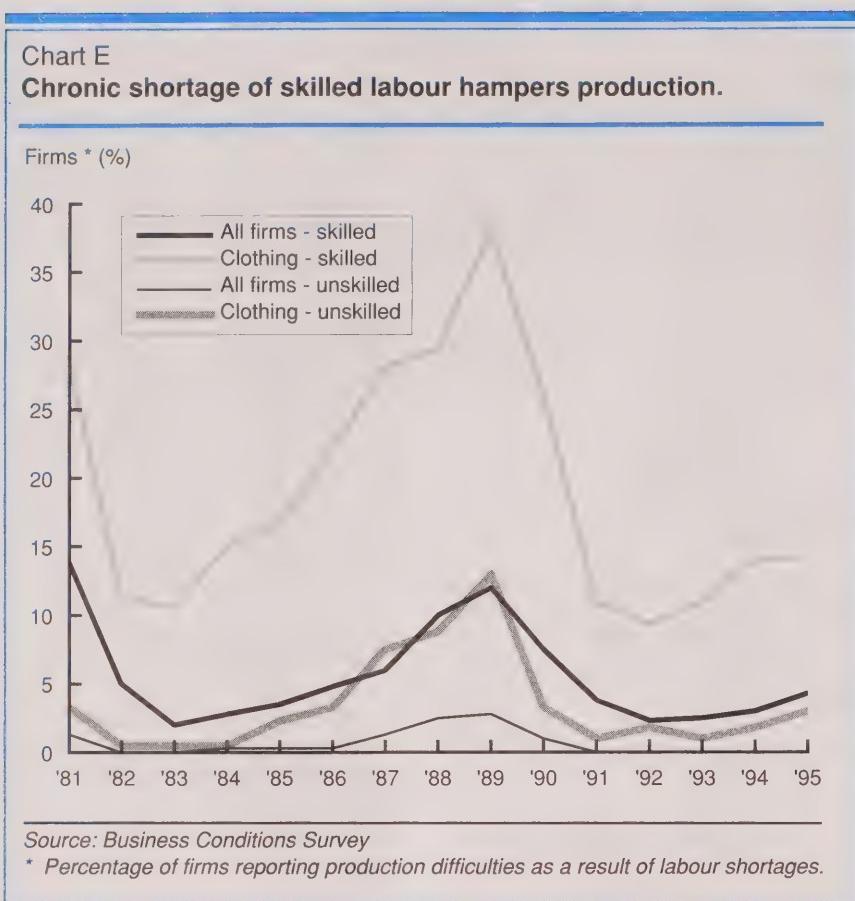
place.) However, as a result of the Uruguay Round of multilateral trade negotiations, quotas on imports of textiles and apparel were to be eliminated over 10 years, starting in January 1995, in all countries covered by the MFA. During the transition period, the remaining quotas will be increased according to a set schedule. Furthermore, the negotiations specified a clothing tariff reduction, from an overall average of 25% to 18%, to be phased in over the same 10-year period (Industry Canada, forthcoming). Although the Canadian industry appears to be adjusting under freer North American trade rules, the effects of dismantling the MFA are still unknown.

Without doubt, a more liberalized trade environment will affect the Canadian clothing industry. Foreign suppliers will be able to increase their share of the Canadian market. However, the FTA and NAFTA have also made the U.S. market more accessible to Canadian manufacturers. The industry's ability to adjust to a more competitive environment will be critical to its success. Sustained growth in exports to the United States and other developed countries will play a key role in the viability of the clothing manufacturing industry in Canada.

Conclusion

Employment in clothing manufacturing has been steadily declining since 1989, the same year production began to fall. And it has continued to drop despite recent production increases made possible largely by more efficient technology.

Although both production and demand have increased again, the impetus for growth has come solely from rising exports (\$1.3 billion in 1995), as domestic demand has actually decreased annually since 1989. Imports continue to account



for more of the Canadian market, reaching a market share of 42% or \$3.6 billion in 1995. This increase will likely continue with the phasing out of the Multi-Fibre Arrangement.

In sum, further acquisition of advanced technology, and tougher global competition, will be key issues in determining future employment needs for the Canadian clothing industry. □

Notes

1 Under the FTA, all clothing tariffs between Canada and the United States (which, with a few exceptions, ranged from 15% to 25% in 1988) will be removed by January 1998 (External Affairs Canada, 1988). Under NAFTA, clothing tariffs between Canada and Mexico (which ranged from 10% to 25% in 1993, with some exceptions) will be phased out by January 2003 (Foreign Affairs and International Trade, 1993).

2 Statistics Canada has estimated the total value of underground economic activity to be between 1% and 5% of the gross domestic product (Smith, 1994). It is not known how much of that can be attributed to the clothing industry.

3 The Survey of Employment, Payrolls and Hours and the Annual Survey of Manufactures, both of which are establishment-based surveys, show similar employment trends. The Labour Force Survey (LFS) also shows employment losses from 1989 to 1992; however, unlike the other two surveys, it reveals employment gains from 1993 to 1995, with a decrease in 1996. The LFS shows generally higher employment counts as well as differing trends mainly because it is a respondent-based survey and therefore captures the self-employed (who accounted for 11% of all employment in clothing manufacturing in 1996, up from 7% in 1993).

4 From 1988 to 1995, apparel imports from the United States grew at an average rate of over 25% annually, while overall imports rose only 4% a year.

5 This refers to paid employees only, not to the self-employed.

6 There may be other reasons for increased productivity. For example, the economic recession in the early 1990s likely forced many inefficient companies to close, whereas more efficient companies survived, thus increasing overall productivity.

7 Paradoxically, selected regions of Canada are experiencing an unskilled labour shortage. For example, in response to a chronic shortage in the Manitoba apparel industry, a Canada-Manitoba agreement recently allowed up to 200 off-shore sewing operators into the province.

References

- Baldwin, J., D. Sabourin and M. Rafiquzzaman. *Benefits and Problems Associated with Technology Adoption in Canadian Manufacturing. Survey of Innovation and Advanced Technology 1993*. Statistics Canada, Catalogue no. 88-514-XPE. Ottawa, 1996.
- Cariou, D. "Fashion education and training in Canada: An Apparel national survey." *Canadian Apparel Manufacturer Magazine* (May/June 1996): 14-19.
- Dickerson, K. G. *Textiles and Apparel in the Global Economy*. 2nd ed. Englewood Cliffs, N.J.: Prentice-Hall, 1995.
- External Affairs Canada. *The Canada-U.S. Free Trade Agreement: Tariff Schedule of Canada*. Ottawa: Supply and Services, 1988.
- Foreign Affairs and International Trade. *North American Free Trade Agreement: Tariff Schedule of Canada*. Catalogue no. E74-551-1993E. Ottawa: Supply and Services, 1993.
- Industry Canada. *Sector Competitiveness Frameworks: Apparel*. Ottawa, forthcoming.
- . *Clothing Industry: Statistical Data*. Ottawa, 1996.
- . *NAFTA and the Apparel Sector*. Catalogue no. C2-227/1-1994E. Ottawa: Supply and Services, 1994.
- International Labour Office. *1995 Year Book of Labour Statistics*. Geneva: ILO, 1995
- . *1991 Year Book of Labour Statistics*. Geneva: ILO, 1991.
- Kurt Salmon Associates, for Industry, Science and Technology Canada (ISTC). *Level of Technology Utilization by Apparel Companies in Canada, the United States and Europe*. Ottawa: ISTC, 1991.
- Organisation for Economic Co-operation and Development. *The OECD STAN Database for Industrial Analysis 1975-1994*. 1995 Edition. Paris: OECD, 1996.
- Smith, P. "Assessing the size of the underground economy: The Statistics Canada perspective." *Canadian Economic Observer* (Statistics Canada, Catalogue no. 11-010-XPB) 7, no.5 (May 1994): 3.16-3.33.
- United Nations. *Statistical Yearbook: 1993*. New York: United Nations, 1995.

RRSP participation – the sooner the better

David Aldridge

To maximize registered retirement savings plan (RRSP) opportunities, "the golden rule is: start saving early" (Gay, 1995). Recently, much attention has focused on the magic of compound interest (Stokes, 1995) and its effects on long-term contributions. In particular, financial institutions' RRSP marketing campaigns seem to have tapped into concerns about a possible reduction or elimination of public pension programs. Growing numbers of young workers are contributing to RRSPs.

Past analysis has dealt with the RRSP population as a whole (Frenken, 1995; Frenken and Maser, 1993). This article focuses on eligible taxfilers aged 25 to 29. It examines their rate of participation, frequency of contribution and average amounts deposited from 1983 to 1992. It also looks at the incidence of cash withdrawals and analyzes some of the characteristics that increase or decrease the likelihood of RRSP participation.

Increasing popularity of RRSPs

The overall RRSP participation rate has increased dramatically in recent years. In fact, from 1983 to 1992 the proportion of eligible taxfilers of all ages who contributed to an RRSP grew from 20% to 36%, or from 2.5 million contributors to 4.9 million. Not all participated every year, however. There were 8.6 million different RRSP contributors during this period and they participated, on average, 4.2

Data source and definitions

This article uses the Small Area and Administrative Data Division's longitudinal administrative data (LAD) file. The LAD, derived from the T1FF (File on Families based on the T1 income tax form), represents a random sample of 1% of all taxfilers and their dependants who have social insurance numbers. Once individuals are selected for inclusion, they remain in the file. In 1992, the LAD contained information on 202,390 individuals. It is estimated (on the basis of demographic estimates of the population) that in 1992 almost 96% of Canadians were represented in the weighted file. A new LAD file based on a 10% sample is also available.

The focus of this article is younger taxfilers, those aged 25 to 29 in two specific years, 1983 and 1988. Only taxfilers eligible in at least one year of 5 – 1983 to 1987 for the first group or 1988 to 1992 for the second group – were analyzed. Those under 25 were excluded from the analysis, since few contribute to RRSPs at that age (Frenken, 1995).

years out of 10. Over half participated 3 years or less, while only 7% reported contributions in all 10 years.

To determine how actively young people have participated, two cohorts of younger taxfilers were studied (see *Data source and definitions*): those aged 25 to 29 in 1983 (1983 cohort) and in 1988 (1988 cohort). Each cohort was followed for 5 years, the first from 1983 to 1987, and the second from 1988 to 1992.¹

In 1983, 11% of eligible taxfilers in the 1983 cohort contributed to an RRSP. This proportion rose to 22% in 1987 (Table 1). Of the 2.2 million taxfilers eligible to contribute over that 5-year

Averages of contributions and withdrawals exclude non-participation years. All amounts are in 1990 dollars.

Cohort: persons of the same age range grouped together for the purpose of studying specific characteristics over time.

Eligible taxfiler: an individual who has income that qualifies for RRSP contribution purposes, which in this study means employment income from both paid work and self-employment for the tax year. The definition of eligible income was changed in 1991, but this change had little effect on younger taxfilers.

Frequency: in this study, refers to the number of years the person contributes to or withdraws from an RRSP during the study period. The years need not be consecutive. Some individuals may have filed tax returns annually, but contributed sporadically; others may not have filed each year.

Low income: in this study, refers to a range from one dollar to \$19,999.

period, 30% (679,000) did so at least once. Over 60% of contributors participated in only one or 2 years, while 11% did so all 5 years.

On average, members of this cohort participated in RRSPs 2.4 years of the 5. Many of those who participated in only one or 2 years did so at the end of the period of study.

Some 987,000 of the 2.5 million eligible taxfilers in the 1988 cohort contributed at least once over the 5 years, for a participation rate of 40%. For each year the rate was considerably higher than that of the equivalent year in the first cohort. In year one it was 19%, 8 percentage points higher than it had been in the 1983 cohort. In

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Table 1
Young RRSP contributors

	Eligible taxfilers	Contributors	
		Number	% of eligible taxfilers
	'000	'000	%
1983 cohort *			
1983	1,845	212	11
1984	1,858	275	15
1985	1,847	328	18
1986	1,889	391	21
1987	1,900	410	22
1988 cohort **			
1988	2,036	393	19
1989	2,059	480	23
1990	2,061	525	25
1991	2,039	602	30
1992	2,033	655	32

Source: Small Area and Administrative Data Division

* Aged 25 to 29 in 1983.

** Aged 25 to 29 in 1988.

year 5 it was nearly 11 percentage points higher.

The average frequency of participation in the 1988 cohort was 2.7 years of the 5, an increase of 0.3 over that recorded in the 1983 cohort. Although the 51% of contributors who participated only one or 2 years was down almost 10 percentage points, the percentage who contributed in all 5 years (17%) was much higher than the previous 11% (Chart A). So, not only did the percentage of young eligible taxfilers contributing to RRSPs increase, their frequency of participation was also higher.

Differences in average contributions

From 1983 to 1987, the 679,000 contributors in the 1983 cohort deposited \$4.2 billion for an average annual amount of \$2,600 (1990 dollars). Men's average annual contributions were larger than women's: \$2,800 versus \$2,300. This can be explained in part by their higher earnings, as RRSP contributions are highly correlated with income level (Frenken, 1995).

During the study period, these men earned on average \$40,200 and women, \$28,000.

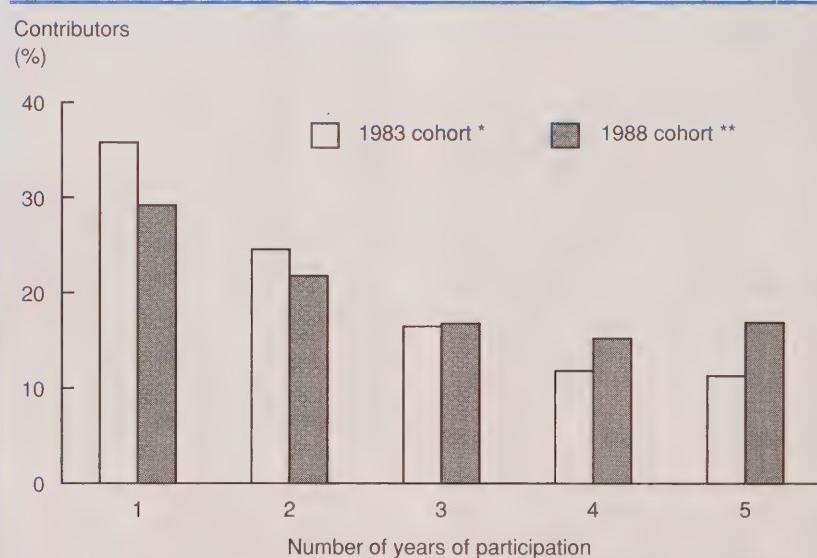
Despite the fact that the 1988 cohort's total contribution (\$5.8

billion) was considerably higher than the 1983 cohort's, the average annual deposit for the second period was 15% lower, or \$2,200 (Table 2) and the number and proportion of small contributions higher (Chart B). Both men's and women's averages decreased by about \$400. Contributions dropped significantly each year, especially in 1990,² when there was a 20% decrease from the same point (1985) in the earlier cohort. The decline can be attributed to lower employment incomes, which averaged only \$37,300 for men and \$27,200 for women. Overall, the proportion of employment income contributed fell from 7.2% (1983 cohort) to 6.6% (1988 cohort).

More contributors with low earnings

At the same time, the proportion of eligible taxfilers who contributed rose from 30% to 40%. Much of the growth was attributable to individuals with low earnings. The

Chart A
The proportion of frequent RRSP contributors has increased.



Source: Small Area and Administrative Data Division

* Aged 25 to 29 in 1983.

** Aged 25 to 29 in 1988.

**Table 2
RRSP contributions and employment income of young RRSP contributors**

	Number of contributors	Contributions		Employment income	
		Total	Average	Total	Average
1983 cohort *	'000	\$ millions	1990 \$	\$ millions	1990 \$
Overall	1,616 †	4,151	2,600 ‡	56,898	35,300 ‡
1983	212	496	2,300	6,924	32,800
1984	275	674	2,400	9,248	33,700
1985	328	833	2,500	11,472	35,100
1986	391	1,062	2,700	14,043	36,100
1987	410	1,085	2,600	15,212	37,200
1988 cohort **					
Overall	2,654 †	5,779	2,200 ‡	87,333	33,000 ‡
1988	393	844	2,100	12,505	31,900
1989	480	980	2,000	15,789	33,000
1990	525	1,075	2,000	17,485	33,300
1991	602	1,319	2,200	19,710	33,000
1992	655	1,561	2,300	21,844	33,600

Source: Small Area and Administrative Data Division

* Aged 25 to 29 in 1983.

** Aged 25 to 29 in 1988.

† Contributors were counted once for each year of contribution.

‡ These figures represent the average amounts deposited and/or earned by contributors per year of participation over the 5-year period.

viduals with lower employment incomes represented 33% of the gain; those with higher earnings, 20%. Thus, women with low earnings accounted for most of the drop in average contributions from the 1983 to the 1988 cohort.

At the family level, most contributors with low earnings belonged to families with low earnings, including those where spouses worked. Some 98% were married, and 63% of these had family earnings less than double their individual level.

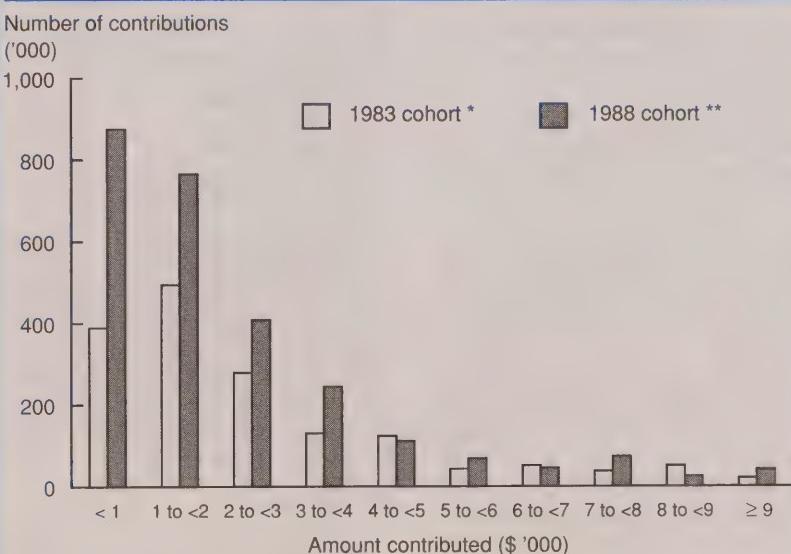
Lower frequency of contribution

The average contribution of those who participated all 5 years was not significantly different from one cohort to the next (Table 3). Neither did the income dynamics of this group change. These people continued to have relatively high annual earnings and, in most cases, contributed annually to defer taxes. On

number of RRSP participants with low employment income jumped 64% from one cohort to the next, to over 400,000. Because they were responsible for over 43% of the increase in the total number of contributors, they had a dampening effect on both employment income and RRSP contribution averages. Those earning \$40,000 and over were also contributing in greater numbers, but their growth was much lower (20%). They were responsible for just 13% of the increase in contributors.

The differences between men's and women's contribution patterns are considerable. In 1988, women who earned under \$20,000 (but greater than zero) were responsible for 58% of the increase in the number of female contributors, while those who earned \$40,000 and over accounted for less than 3%. Among male taxfilers growth was more evenly distributed. Indi-

**Chart B
The number of small contributions has grown dramatically.**



Source: Small Area and Administrative Data Division

* Aged 25 to 29 in 1983.

** Aged 25 to 29 in 1988.

**Table 3
Average RRSP contribution
by cohort and frequency of
contribution**

Frequency	Contribution
years	1990 \$
1983 cohort *	
1	2,300
2	2,500
3	2,500
4	2,700
5	2,800
1988 cohort **	
1	1,700
2	1,800
3	2,000
4	2,200
5	2,700

Source: Small Area and Administrative Data Division

* Aged 25 to 29 in 1983.

** Aged 25 to 29 in 1988.

vestment income. Also, eligible taxfilers with some self-employment income were significantly more likely to participate than those reporting no such income. This may be because self-employed individuals are not able to participate in employer-sponsored pension plans, and therefore have a greater need to plan for their own retirement. Being married also dramatically increases the odds of contributing, while having children decreases the odds.

Significant withdrawals

RRSP savings cashed in annually by taxfilers of all ages must be taken into account in a study of RRSP contributions. (For a detailed analysis of RRSP withdrawals in recent years see Frenken, 1996.) Since withdrawals have been iden-

tifiable from tax data only since 1988, this analysis considers those from the second cohort.³ Of the 2.5 million younger taxfilers eligible to contribute during this time, over 10% or 256,000 withdrew at least once from their RRSPs. The average annual amount withdrawn was \$3,200 for men and \$2,600 for women (Table 5).

Persons who withdrew at least once did so on average 1.3 years out of 5. Their average frequency of contribution was 2.7 years out of 5, which may explain, in part, why the average amount withdrawn was significantly higher than the average amount of contribution. Those cashing in all their RRSP savings in one year may have had more than one years' contribution available to them.

the other hand, participants with lower earnings tended to contribute more sporadically. Of those who contributed only one or 2 years, members of the 1988 cohort contributed on average over 25% less than their predecessors. So, although the number of contributors with lower employment incomes grew, the size of contribution diminished and continued to be infrequent.

Characteristics of RRSP contributors

Characteristics likely to affect participation in an RRSP are similar for both cohorts. Most influential is the younger worker's level of earnings (Table 4). In the 1988 cohort, 21% of individuals earning less than \$10,000 contributed at least once to an RRSP. This proportion increased for each group to 88% for those earning \$50,000 or more. And persons with some investment income (which is highly correlated with levels of employment income) had a participation rate of 58%, 2.5 times higher than those with no in-

**Table 4
Characteristics of young RRSP contributors (1988 cohort *)**

	Contributors		
	Eligible taxfilers	Number **	% of eligible taxfilers
Total	2,476	987	40
Employment income			
\$1 to 9,999	1,170	241	21
\$10,000 to 19,999	409	167	41
\$20,000 to 29,999	422	233	55
\$30,000 to 39,999	276	186	67
\$40,000 to 49,999	126	96	76
\$50,000 and over	73	64	88
Investment			
Income declared	1,177	683	58
None declared	1,299	304	23
Self employment			
Income declared	340	152	45
None declared	2,136	835	39
Marital and parental status			
Married			
With children	1,439	593	41
Without children	445	251	56
Single			
With children	340	81	24
Without children	253	62	25

Source: Small Area and Administrative Data Division

* Aged 25 to 29 in 1988.

** Number eligible to contribute who did so at least once over the 1988-to-1992 period.

Table 5
Average withdrawal made by persons aged 25 to 29 in 1988

Year	Men	Women
1990 \$		
Overall	3,200 *	2,600 *
1988	3,100	2,400
1989	3,100	2,500
1990	3,500	2,700
1991	3,400	2,700
1992	3,100	2,800

Source: Small Area and Administrative Data Division

* These averages represent the average withdrawal per year of withdrawal, over the 5-year period.

People dipping into these savings were still fewer than those contributing, and total amounts cashed in were small compared with contributions. For every young person withdrawing over the 5-year period there were almost four contributors, and for every one dollar withdrawn there were six in contributions. In 1992, the most recent year in this study, 655,000 young people contributed \$1.6 billion to RRSPs while just 81,000 withdrew \$241 million.

Contributors and withdrawers were not mutually exclusive in any given year; some people both contributed and withdrew in a single tax year. Of those who withdrew, 44% contributed the same year. Most were not sporadic or first-time contributors, but participated an average 3.2 years of the 5.

This pattern may have been caused in part by the timing of these transactions. While withdrawals are reported on a calendar year basis, allowable contributions can be made up to 60 days after December 31.⁴ During the year these young workers may have

needed to draw on their RRSP savings to meet immediate financial obligations. However, they could have made a contribution before the end of the following February for a number of reasons: their financial situation may have improved by year end; they may have taken advantage of arrangements offered by financial institutions;⁵ or they may have decided to contribute to their RRSPs to reduce their tax liability.

Conclusion

More young people than ever before are investing in RRSPs. While middle and high income earners have always used the tax deferral opportunity, much of the recent increase in contribution activity has come from those with lower earnings. This development has caused the average amount of contribution to drop.

Younger workers contribute regularly to RRSPs in order to achieve greater financial independence for future retirement, which should result in less reliance on government transfers. There are indications that their growing RRSP participation will likely persist, particularly because of their concern over future availability of government pensions (Cohen, 1996).

Acknowledgements

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Notes

1 The ages in each cohort were evenly distributed, that is, each one represented about 20% of the total in each cohort.

2 During the recession of the early 1990s, fewer young people would have had the discretionary income to invest in RRSPs. For details on the 1990 decline in overall RRSP participation and the contrasting 1991 growth, see Frenken and Maser (1993).

3 Excluded are withdrawals under the Home Buyers' Plan, which are not reported on tax returns (Frenken, 1996).

4 Therefore, the withdrawals shown are those made from January 1 to December 31 of a given year, whereas contributions reported may have been made from January 1 of a given year to the end of February (or beginning of March) of the subsequent year. In fact, in the past up to 80% of annual contributions claimed on each year's tax returns were actually deposited in January and February of the next year.

5 Many institutions offer RRSP contribution loans to their clients, with a postponed repayment schedule effective only after a tax refund.

References

Cohen, B. "Reality eludes retirement savers: poll." *The Financial Post*. June 20, 1996, p. 29.

Frenken, H. "RRSP withdrawals revisited." *Perspectives on Labour and Income* (Statistics Canada, Catalogue no. 75-001-XPE) 8, no. 4 (Winter 1996): 16-19.

---. "RRSPs – unused opportunities." *Perspectives on Labour and Income* (Statistics Canada, Catalogue no. 75-001-XPE) 7, no. 4 (Winter 1995): 20-25.

Frenken, H. and K. Maser. "RRSPs – new rules, new growth." *Perspectives on Labour and Income*. (Statistics Canada, Catalogue no. 75-001-XPE) 5, no. 4 (Winter 1993): 33-42.

Gay, K. "The golden rule is: 'Start saving early'." *The Financial Post*. November 5, 1995, p. 27.

Stokes, D. "Start your RRSP as early in life as you can." *The Financial Post*. February 10, 1995, Special Report, p. 44.

Low incomes and RRSPs

Hubert Frenken

People with medium and high incomes are not the only ones contributing to registered retirement savings plans (RRSPs). In 1994 (the most recent data at the time of writing), 782,000 contributors (almost 15% of all RRSP participants) reported under \$20,000 in total income on their tax returns, and 158,000 (3%) had less than \$10,000. This situation was unheard of not many years ago. But, just as the percentage of young contributors has increased significantly since the early 1980s (Aldridge, 1997), so too has the participation of persons with low incomes.

The advantages of contributing by the latter group have been questioned (Canadian Institute of Actuaries, 1995; McCarthy, 1996). Indeed, workers with low incomes have little incentive to participate (see *Low motivation*). This article looks at their growing participation and suggests reasons for the increase. Using longitudinal data (see *About the data*) it examines participation by sex and income (both personal and family).

Significant increases

In 1982, RRSP contributors numbered less than 2.1 million, 17% of all eligible taxfilers (Table). By 1992, there were 4.6 million participants, representing 37% of all those eligible. Not unexpectedly, filers with personal incomes of \$30,000 or over (1990 dollars) were responsible for the bulk of this growth. Their numbers grew from less than 1.5 million to almost 2.8

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About the data

The data for 1982 and 1992 are from the Small Area and Administrative Data Division's original (1% sample) longitudinal administrative data (LAD) file. Information for 1994 is from the Labour Division's RRSP room file. For descriptions of the LAD file see "RRSP participation – the sooner the better" in this issue. For information about the RRSP room file see Frenken (1995).

For 1982 and 1992 all income amounts were converted to 1990 dollars. The presence of employment

million, and their participation rate increased from 34% of those eligible, to 59%. The rate for those with under \$20,000² increased as well, from just 4% to 16%; for filers with incomes from \$20,000 to \$29,999, it grew from 15% to 37%. In 1982, RRSP contributors with under \$20,000 were just 10% of the total. By 1992, they represented 17% of all participants. For those with \$20,000 to \$29,999 the percentage increased from 18% to 22%.

Many more women

Women have accounted for most of the growth in RRSP participation in the last 15 years. They represented less than 33% of contributors in 1982, but 42% by 1992. Although their proportion has grown more rapidly among high income than low income contributors, women still make up the majority of the latter. Those with incomes of \$30,000 or more increased from 23% of participants in 1982 to 31% in 1992, and those with under \$20,000, from 60% to 65%.

income (from both paid work and self-employment) in 1982 was used to determine RRSP eligibility that year. For 1992, employment income in 1991 was used. This process may have understated the number of eligible taxfilers (and slightly overstated RRSP participation), since some people with no employment income in 1991 could still contribute in 1992, because of unused RRSP room carried forward. For details on RRSP eligibility rules see Frenken (1995).

More contributors with low family income

Married taxfilers (legally married only) who were eligible to contribute to RRSPs and had family

Low motivation

For taxfilers with low incomes, RRSP deductions claimed from gross income may result in little, if any, tax savings. In 1993, only 45% of taxfilers with total income under \$20,000 (but greater than zero) paid taxes and just 18% with less than \$10,000 did so (Revenue Canada, 1995).

Furthermore, government pension programs, namely, Old Age Security (OAS), Guaranteed Income Supplement (GIS) and the Canada and Quebec Pension Plan (C/QPP), provide many of these people with pension benefits equivalent to or even higher than their pre-retirement earnings.¹ For example, a single person retiring in 1993 at age 65, with previous employment income of \$10,000, could be entitled to government pensions amounting to \$11,200 annually. Someone with \$15,000 in employment income could have nearly 80% replaced by the public programs (Maser, 1995).

Table
Number and percentage of eligible taxfilers contributing to RRSPs

Income *	Both sexes		Men		Women	
	Number	% of eligible taxfilers	Number	% of eligible taxfilers	Number	% of eligible taxfilers
	'000	%	'000	%	'000	%
1982						
Total	2,075	17	1,399	20	676	14
\$1 to 29,999	600	8	261	7	339	8
\$1 to 9,999	25	1	9	1	16	1
\$10,000 to 19,999	192	7	78	6	114	7
\$20,000 to 29,999	383	15	174	13	209	18
\$30,000 and over	1,475	34	1,138	33	337	38
1992						
Total	4,581	37	2,636	39	1,945	34
\$1 to 29,999	1,792	23	711	21	1,081	25
\$1 to 9,999	139	7	46	6	93	8
\$10,000 to 19,999	635	22	222	18	413	25
\$20,000 to 29,999	1,018	37	443	33	575	42
\$30,000 and over	2,789	59	1,925	58	864	63

Source: Small Area and Administrative Data Division

* 1990 dollars.

incomes under \$30,000 decreased by nearly 300,000 over the 10-year period; on the other hand, married contributors in this income group increased by almost 100,000, or from 5% to 16% of these taxfilers. Again, this growth can be attributed largely to the increasing participation of women – from 22% to 39% of married contributors with family incomes under \$30,000.

Why the continued high participation?

There is no indication that RRSP participation for taxfilers with low incomes has declined since 1992. In fact, the number of contributors with income under \$20,000 was unchanged in 1994 (774,000).

If tax benefits for this group are modest and government pensions more or less adequate, why do these individuals continue to participate in such large numbers? Many may have been influenced by

financial institutions' advertising campaigns and by growing public concern over the future of government-sponsored programs (Cohen, 1996). A considerable number are young and, although they may realize small immediate tax savings, their long-term benefits may be quite significant, given the tax-free compound interest credited to them.

Not all contributions are saved until retirement. Many people may withdraw some or all deposits shortly after contributing, even within the same tax year. Previous analysis has found that for every five dollars contributed in recent years, one is cashed in before taxfilers reach age 65. Many of those dipping into their RRSP savings have low incomes (Frenken, 1996). Nevertheless, most of these taxfilers' deposits will probably remain until retirement, which should mean reduced dependency on the government safety net. □

Note

1 As a result of the March 1996 budget, the OAS and GIS program will be phased out and replaced with a new Seniors Benefit by 2001. It will provide greater payments to those with zero or modest income from other sources, but will reduce benefits for those with high incomes. Under the new system an estimated 75% of seniors will receive benefits the same as or higher than those under the current programs (Department of Finance, 1996). This increase in benefits and beneficiaries may affect future RRSP participation by workers with low incomes.

2 This and all subsequent references to income under a stated amount exclude zero and negative income. (In contrast, the first paragraph of this article refers to all amounts, including zero).

References

Aldridge, D. "RRSP participation – the sooner the better." *Perspectives on Labour and Income* (Statistics Canada, Catalogue no. 75-001-XPE) 9, no.1 (Spring 1997): 41-45.

Canadian Institute of Actuaries (CIA). *Troubled Tomorrows – The Report of the Canadian Institute of Actuaries' Task Force on Retirement Savings*. Ottawa: CIA, 1995.

Cohen, B. "Reality eludes retirement savers: poll." *The Financial Post*. June 20, 1996, p.29.

Department of Finance. *The Seniors Benefit: Securing the Future. Budget 1996*. Ottawa, 1996.

Frenken, H. "RRSP withdrawals revisited." *Perspectives on Labour and Income* (Statistics Canada, Catalogue no. 75-001-XPE) 8, no.4 (Winter 1996): 16-19.

---. "Tax assistance for pensions and RRSPs." *Perspectives on Labour and Income* (Statistics Canada, Catalogue no. 75-001-XPE) 7, no. 4 (Winter 1995): 9-13.

Maser, K. "Who's saving for retirement?" *Perspectives on Labour and Income* (Statistics Canada, Catalogue no. 75-001-XPE) 7, no.4 (Winter 1995): 14-19.

McCarthy, S. "Public pension plan worries mount: Can we save enough on our own? Fears prompt RRSP upswing." *The Toronto Star*. September 3, 1996, p. B1.

Revenue Canada. *Tax Statistics on Individuals: 1993 Tax Year*. 1995 edition. Ottawa, 1995.

Work arrangements: 1995 overview

Ernest B. Akyeampong

In November 1995, Statistics Canada, with financial support from Human Resources Development Canada, conducted the second Survey of Work Arrangements (SWA) of Canadian workers. The objectives of this survey were to update 1991 SWA data relating to business practices, juggling work and school, balancing work and family, and job quality; to fill in data gaps in the earlier survey; and to extend coverage to the self-employed (see *Data source*).

This overview presents some of the findings and highlights conspicuous relationships. Fuller analysis will appear in future issues of *Perspectives* and elsewhere.

Business practices

While much has been heard or written about ongoing corporate restructuring (for example, contracting out, relocation, mergers, downsizing), not much is known, statistically speaking, about changes in the work arrangements of employees.¹ A comparison of the results from the 1991 and 1995 Surveys of Work Arrangements (both held in November to eliminate the effects of seasonality) provides some of the missing information. However, since there are only two observation points, and because the two surveys took place at different phases of the business cycle, it is not clear to what extent the changes observed reflect real trends as opposed to cyclical patterns. It is also unclear to what extent shifts in industries and occupations may have contributed to revised practices;

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such effects, if any, are likely to be small during the short interval between the two surveys.

Since most findings will be presented in percentages, it is worth noting that employees aged 15 to 69 in 1991 counted 10.8 million,² and in 1995, 11.1 million. The self-employed in that same age group in 1995 totalled 2.1 million. Unless otherwise stated, this paper refers to paid workers (employees) only.

Changes

A comparison of the 1991 and 1995 data reveals the following:

- The proportion of employees aged 15 to 69 usually working a five-day, Monday-to-Friday schedule (that is, no weekends) was around 60% for both surveys.
- However, weekend work has increased considerably. In 1991, approximately 10% of employees reported usually working on Saturdays, and 4% on Sundays; in 1995, the proportions had risen to 14% and 8%.
- The proportion of workers with a regular daytime schedule, the so-called "9 to 5" schedule, was little changed – it was 70% in 1991 and 68% in 1995. Though the percentage who had a shift, irregular, on-call or casual schedule also remained fairly stable, the proportion for whom such an arrangement was a requirement of the job (no choice) went up from 69% to 78%.
- The proportion of workers with a flexitime work arrangement (that is, an arrangement that permitted, within limits, some variation of work start and end times) rose from 16% to 24% (to 2.6 million).
- Similarly, work at home saw an increase. The proportion of employees who regularly did some or all of their paid work at home rose from 6% to 9% (to one million).

Data source

The 1991 Survey of Work Arrangements (SWA), a supplement to the November Labour Force Survey (LFS) of the same year, gathered data on work schedules, shift work, flexitime, on-call work, working from home, and moonlighting. The November 1995 survey extended coverage to the self-employed and added new information on job quality, among other topics. Included in both surveys are questions on rates of pay, union membership and paid overtime. Combined with the LFS data on the personal and family characteristics of workers, the SWA offers a wealth of information on these issues, as well as on the broader topics of business practices, balancing work and family, and juggling work and school.

New data

Among the new key findings are the following:

- Approximately 8% (171,000) of all part-time employees shared their job with another worker in November 1995. Close to 84% of all job-sharers were women.
- The survey asked the one million respondents who did all or part of their work from home if they were provided with certain equipment to help them carry out their duties. Approximately 22% of these employees said they were issued a computer; 14%, a modem, and 11%, a fax machine.

- Roughly 14% of employees usually worked paid overtime each week, for an average of about 6 hours. This finding may be useful in discussions on the redistribution of paid overtime as a means of reducing unemployment.
- Approximately 12% of respondents (1.3 million) described their job as non-permanent.³ Of this group, close to one-half described their job as term, contract or temporary; another one-third, as casual, and the rest, as seasonal or other.
- On average, employees' hourly earnings were \$15.01.⁴
- In addition, over one-half of workers (51%) were covered by an employer-sponsored retirement plan or group RRSP; 59%, by a health plan, and 55%, by a dental plan. Furthermore, 57% of employees were entitled to paid sick leave, and 73%, to paid vacation leave.⁵
- Only one-quarter (26%) of young employed students had a regular daytime work schedule, compared with 60% of non-students. Shift, irregular, on-call or casual work schedules were the norm for students; 71% working these schedules did so to accommodate their school demands.
- In terms of work arrangements, only a small fraction of young students and non-students worked from home (3% each), although a higher proportion of the former enjoyed a flexitime work arrangement (18% versus 13%). Also, the incidence of non-permanent employment among students (31%) was almost double that of non-students (17%).
- As expected, the volume of work was much heavier among non-students. Only 18% worked part time, compared with 89% of students. Approximately 25% of employed young people in school worked less than 10 hours each week: hardly any of those not in school put in so few hours. In contrast, 16% of employed non-students worked more than 40 hours each week, compared with almost no students. Finally, 16% of non-students usually worked paid overtime, three times the incidence among working students.
- The differences in work schedules, volume and arrangements lend some support to the view that the need to balance work and school plays a crucial role in the decisions of young students.
- Dren, a group with particularly high work absence rates owing to family demands (Akyeampong, 1995).⁶ In November 1995, these women numbered 788,000, while their counterparts without pre-schoolers totalled 2,259,000. How did these two groups compare with respect to work schedules, volume and arrangements?
- Employed women aged 25 to 44 with pre-school aged children were only slightly less likely to have a Monday-to-Friday inclusive work schedule (59% versus 64%) than those without. Though they were also only slightly more likely to work shift, irregular, on-call or casual schedules (29% versus 25%), about one-quarter cited care for children as the main reason for doing so. In terms of weekend work the two groups were identical: about 10% worked on Saturdays and about half that proportion (5%) on Sundays.
- Some 12% of both groups described their job as non-permanent.
- As expected, the volume of work provided by employed women with pre-schoolers was lower than that of their counterparts without young children. Approximately 31% of the former worked part time, compared with 21% of the latter. Also, the proportion working under 10 hours each week (4%) was double that of the other group, and the percentage working over 40 hours (7%), about half.
- Employed women with preschoolers were also slightly more likely to have work arrangements that helped to balance work and care of children. Approximately 28% had flexitime arrangements, compared with 25% of their counterparts without pre-schoolers. Some 13% worked from home, compared with 11%.

Job quality

There is a growing public perception that the "quality" of jobs is deteriorating. Advocates of this thesis argue that good jobs – as judged by such attributes as wage rate, availability of employer-sponsored pension, health and dental plans, and entitlement to paid sick and vacation leave, to name a few⁷ – are being replaced by not so good ones. They often note that in absolute and relative terms, temporary jobs are increasing (Krahn, 1995), part-time jobs are growing (Statistics Canada, 1996a), public sector⁸ employment is declining (Statistics Canada, 1996b), and small businesses have become key players in employment growth (Picot, Baldwin and Dupuy, 1994). In effect, they are saying that, looked at in isolation, permanent jobs seem better than non-permanent ones, full-time better than part-time, public sector better than private sector, and jobs in large firms better than those in small firms.⁹ Data from the 1995 SWA shed some light on this debate (Appendix). Among the major findings are the following:

- Average hourly earnings in permanent jobs in November 1995 (\$15.39) were almost three dollars better than those in non-permanent jobs. The difference between full-time (\$16.05) and part-time jobs was around five dollars.
- Employees with permanent, with full-time, or with public sector jobs had greater access to non-wage benefits. For example, on average, 60% of employees in permanent or full-time jobs were covered by an employer-sponsored pension, health or dental plan, compared with about 20% in non-permanent or part-time jobs. The corresponding proportion in public sector jobs was even higher, at around 80%. The picture was similar for paid sick leave entitlement.

- The likelihood of being covered by non-wage benefit plans and of having paid sick leave entitlement also increased with firm size – from around 30% in the smallest firms to approximately 80% or more in the largest. Hourly earnings also rose by firm size – from \$12.16 in firms with under 20 employees to a little over \$20.00 in those with more than 500.
- The proportion of employees entitled to paid vacation leave was generally higher than that with paid sick leave entitlement. Again, coverage was higher in permanent, full-time, or public sector jobs and in those in larger firms: about 80% or more of these employees enjoyed such benefits.
- In a world of increasing stress and conflicting demands, a flexitime work arrangement offers some relief: it is a good job attribute, more likely to be found in permanent, full-time or public sector jobs: about one in four such workers had this privilege compared with one in five in non-permanent, part-time or private sector jobs. Very large firms seem to offer greater opportunities for flexitime work arrangements.

Self-employment

Approximately 2.1 million people aged 15 to 69 were self-employed¹⁰ in their main job in November 1995. This was 15% higher than the level in November 1991. This growth was greater than that among paid workers (just 3%). Following are some key findings of the 1995 SWA:

- As expected, working from home is very common among the self-employed. Over half (53%) of the 2.1 million operated their businesses from home.
- The main reasons for engaging in self-employment were enjoy-

ment of independence (42%), carrying on a family business (17%), no other work available (12%), and a desire to make more money (10%).

About 184,000 moonlighters, some of whom were employees in their main job and some who were self-employed in their main job, worked for themselves in the second job. Most (78%) operated these second jobs from home.

Work hour preferences of employees

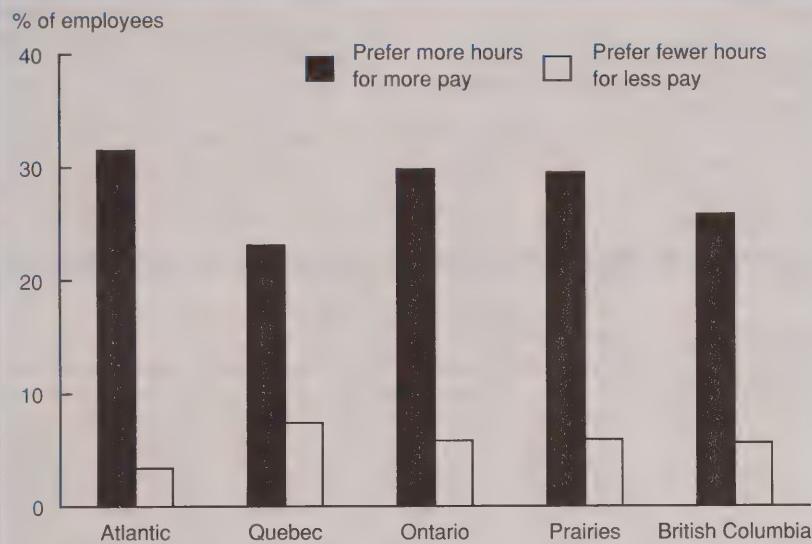
One question in the 1995 SWA sought information on the work hour preferences of Canadian paid workers. The question read: "At this job, given the choice, would [you] at [your] current wage, prefer to work (mark one only)

1. Fewer hours for less pay?
2. More hours for more pay?
3. The same hours for the same pay?"

Answers to this question, along with information collected in other parts of the survey, would be of interest to people concerned with issues of underemployment, over-employment, and redistribution of work.¹¹ A few findings are presented here:

- Approximately two in three paid workers (66%) preferred to work the same hours for the same pay.
- About 6% of paid workers (the majority being women) indicated a preference for fewer hours for less pay.
- About 28% preferred to work more hours for more pay. However, almost 50% of youths, of part-timers and of persons in non-permanent jobs preferred to work more hours.
- Except for Quebec, higher than average proportions of workers preferring more hours were observed in slack labour market

Chart

Three out of ten employees would prefer to work more hours.

Source: Survey of Work Arrangements, 1995

regions (that is, areas with unemployment rates higher than the national average). The proportions declined as one moved west: from 32% of workers in the Atlantic region to 26% in British Columbia (Chart). In Quebec, only 23% of workers indicated such a preference.

■ Similarly, only 3% of workers in the Atlantic region preferred fewer work hours, compared with about 6% in Ontario, the Prairies and British Columbia. In Quebec, the percentage was a bit higher, over 7%.

A public-use microdata file of SWA survey results is available for \$1,500.00 (product number 71M0013XDB). To order, please contact Mike Sivyer at 1 800 461-9050 or (613) 951-4598; fax (613) 951-0562.



paid vacation, some workers do not enjoy such a benefit. These include some contract, term, on-call and casual workers. It is also conceivable that some workers who are expected to take pay in lieu of vacation time may have responded negatively to the related survey question. A close examination of the profile of respondents who indicated they were not entitled to paid vacation is under way.

6 Working men of the same age in similar family situations lost hardly any work time for this reason.

7 Other relevant job characteristics, not covered by the SWA, include the degree of stress associated with the job, promotion prospects, boredom and repetitiveness.

8 The public sector includes employees working for the federal government, provincial or local governments, agencies or other government bodies, Crown corporations, or government-owned institutions such as schools or hospitals. The private sector includes all other employees and the self-employed.

9 There is doubtless a high correlation between these job types. For example, public sector jobs are more likely to be permanent and full-time. These factors have not been controlled for in this overview.

10 Self-employed workers include working owners of incorporated or unincorporated businesses who work for themselves, with or without paid help.

For another look at SWA data on the self-employed, see "Key labour and income facts" in this issue.

11 A detailed analysis of data pertaining to this question, including differences in proxy/non-proxy responses, is planned for release sometime in 1997.

■ Notes

1 The distribution between full- and part-time jobs and, to some extent, temporary and non-temporary jobs (as defined by the General Social Survey) are exceptions.

2 Unlike the previously published figure (10.3 million), this count was reweighted to the 1991 Census and includes 65 to 69 year-olds.

3 The SWA definition of a non-permanent job went beyond the restrictive definition of temporary job used in the General Social Survey (that is, a job with an end date) or by several past household-based surveys such as the Labour Market Activity Survey (that is, a job lasting less than six months). It was based simply on the agreement when the job began, irrespective of a specified end date or duration.

4 This figure is the derived average for all respondents, whether they are salaried or paid by the hour.

5 Although federal and provincial employment standards and labour laws generally entitle employees to at least two weeks of

■ References

Akyeampong, E.B. "Missing work." *Perspectives on Labour and Income* (Statistics Canada, Catalogue no. 75-001-XPE) 7, no. 1 (Spring 1995): 12-16.

Akyeampong, E.B. and J. Siroonian, "Work arrangements of Canadians – an overview." *Perspectives on Labour and Income* (Statistics Canada, Catalogue no. 75-001-XPE) 5, no. 3 (Autumn 1993): 8-10.

Krahn, H. "Non-standard work on the rise." *Perspectives on Labour and Income* (Statistics Canada, Catalogue no. 75-001-XPE) 7, no. 4 (Winter 1995): 35-42.

Marshall, K. "Balancing work and family responsibilities." *Perspectives on Labour and Income* (Statistics Canada, Catalogue no. 75-001-XPE) 6, no. 1 (Spring 1994): 26-30.

Picot, G., J. Baldwin and R. Dupuy. *Have Small Firms Created a Disproportionate Share of New Jobs in Canada? A Reassessment of the Facts*. Catalogue no. 11F0019MPE, no. 71. Ottawa: Statistics Canada, 1994.

Statistics Canada. *Historical Labour Force Statistics, 1995*. Catalogue no. 71-201-XPB. Ottawa, 1996a.

---. *Labour Force Information for the Week Ended November 16, 1996*. Catalogue no. 71-001-PPB. Ottawa, 1996b.

Sunter, D. "Juggling school and work." *Perspectives on Labour and Income* (Statistics Canada, Catalogue no. 75-001-XPE) 4, no. 1 (Spring 1992): 15-21.

Appendix Job quality indicators by job type and firm size, 1995

		Job type *						
		All	Permanent	Non-permanent	Full-time	Part-time	Public sector	Private sector
Number of employed	('000)	11,084	9,683	1,272	8,968	2,116	2,058	9,016
Hourly wage rate	(\$/)	15.01	15.39	12.42	16.05	11.01	19.46	13.97
Coverage in employer-sponsored						%		
Pension plan/group RRSP		51	55	20	59	19	83	44
Health plan		59	64	19	69	18	79	54
Dental plan		55	60	17	64	16	72	51
Paid sick leave entitlement		57	62	19	66	18	83	51
Paid vacation leave		73	78	28	82	31	78	71
In flexitime work arrangement		24	24	21	25	19	27	23
Firm size (number of employees)								
		Under 20		20-99		100-500	Over 500	
Number of employed	('000)	11,084		3,799		3,507		2,292
Hourly wage rate	(\$/)	15.01		12.16		14.76		17.37
Coverage in employer-sponsored						%		
Pension plan/group RRSP		51		25		54		75
Health plan		59		34		64		80
Dental plan		55		31		59		74
Paid sick leave entitlement		57		38		60		74
Paid vacation leave		73		59		73		85
In flexitime work arrangement		24		24		20		24

Source: Survey of Work Arrangements

Note: A worker is considered full-time if he or she usually works 30 hours or more a week at the main job. Part-timers usually work less than 30 hours. For other definitions see notes 3 and 8.

* These job types are not mutually exclusive of each other.

What's new?

■ JUST RELEASED

■ *Three income studies from the Survey of Consumer Finances and Household Facilities and Equipment Survey*

Earnings of Men and Women, 1995

With private sector wage settlements being outstripped by inflation, and public sector wage freezes common, how do earnings of men and women compare? And how do education, age, full- and part-time status and job tenure affect earnings differences? *Earnings of Men and Women, 1995* (Catalogue no. 13-217-XPB) helps to answer these questions. This publication presents average and median earnings, earnings distributions and female-to-male earnings ratios by various characteristics, including province, age, education, occupation and work experience. Statistics for this publication are derived from the Survey of Consumer Finances, an annual supplement to the Labour Force Survey.

Household Facilities by Income and Other Characteristics, 1996

How does the level of household income affect Canadian households? What is the relationship between household income and home ownership or the presence of various household facilities and equipment? *Household Facilities by Income and Other Characteristics, 1996* (Catalogue no. 13-218-XPB) looks at these and other relationships between income and household characteristics, by linking 1996 facilities with 1995 income data. This publication also looks at the relationship between monthly cash rent and annual income. It provides selected statistics on low income households as well. Statistics are derived from a database linking the Survey of Consumer Finances, the Household Facilities and Equipment Survey, the Labour Force Survey and the Rent Survey.

Family Incomes, Census Families, 1995

What are the trends and patterns of income for census families (that is, nuclear families as opposed to extended families) and people who are not in a census family? *Family Incomes, Census Families, 1995* (Catalogue no. 13-208-XPB) looks at the incomes of husband-wife

families, single-parent families and persons not in families. It shows their distribution by size of income, major source of income, region or province, age, sex and other characteristics. The census family concept used is identical to that of the Canadian census. Statistics for this publication are derived from the Survey of Consumer Finances.

For further information concerning these three publications, contact Réjean Lasnier at (613) 951-5266; Internet: income@statcan.ca. □

■ *Rural labour markets*

The Organisation for Economic Co-operation and Development (OECD) has released a new report on the characteristics and dynamics of rural labour markets in Canada and other member nations of the OECD.

Territorial Indicators of Employment: Focusing on Rural Development, compiled with the assistance of Statistics Canada, shows that agriculture is no longer the dominant sector providing employment for rural populations in OECD countries. Today, in all member nations, most rural employment opportunities are in non-agricultural activities.

Even in the predominantly rural regions, less than a quarter of total employment is in agriculture, forestry and fisheries. At least every second job is in the service sector, and in some countries, the proportion is even higher.

Employment growth in these regions has been primarily, if not exclusively, due to substantial increases in service sector employment. Between 1980 and 1990 employment in this sector grew 15% to 25% in these areas. In most countries, this was often better than the national average.

Such was the case for Canada and Norway. So, the rural setting is not a handicap to job creation. On the contrary, it can yield both innovative and dynamic approaches to such a challenge.

Territorial Indicators of Employment: Focusing on Rural Development is now available. For further information on this release, or to order this report, contact Ray Bollman, Agriculture Division, Statistics Canada at (204) 727-9734, or Ken Donnelly, Human Resources Development Canada at (819) 994-6701. □

■ **Temporary help agencies**

The feature article in the second-quarter 1996 issue of *Services Indicators*, "The temporary help service industry: Its role, structure and growth," studies the industry that supplies temporary help to business and industry. Temporary help plays an important role in human resources management, similar to that of just-in-time technology in inventory management and bridge financing in financial markets.

In 1991, there were 514,000 workers in temporary jobs, or 5% of the total employment figure. But revenue, rather than employment, offers a more accurate measure of the industry.

In 1993, business, governments and individuals paid \$1.4 billion to purchase services from temporary help agencies. There were 1,191 temporary help agencies in Canada, many of which were small; more than half (635) earned less than \$250,000 in revenue.

Services Indicators (Catalogue no. 63-016-XPB, \$34/\$112) is a quarterly publication that profiles the communication, business services, and finance, insurance and real estate sectors. It presents statistics on key economic indicators, finances, employment, salaries and output. The second-quarter issue for 1996 is available. For further information, contact George Sciadas, Services, Science and Technology Division, at (613) 951-3177. □

■ **Report on children**

Statistics Canada, along with Human Resources Development Canada, has released *Growing Up in Canada, 1994-95* (Catalogue no. 89-550-MPE, \$25), which contains analyses of data from the National Longitudinal Survey of Children and Youth.

This joint undertaking is an important step in learning more about how Canadian children are developing today, and what can be done to prepare them for the challenges of tomorrow. The survey is a long-term research program that will track a large sample of children over many years, enabling researchers to monitor children's well-being and development.

This report, which contains several early analyses of the survey's data, presents the findings and conclusions of studies undertaken by experts on child development. The studies illustrate the richness and diversity of the database, the analytic value of which will grow in years to come as further survey cycles are completed.

For further information on this release, contact Gilles Montigny, Special Surveys Division, at (613) 951-9731. □

■ **SEPH data on diskette**

The Survey of Employment, Payrolls and Hours has recently produced *Annual Estimates of Employment, Earnings and Hours, 1983-1995* in electronic format, using easy-to-load, user-friendly Adobe Acrobat software.

Users can browse the information and print any or all pages, as well as export the data into the spreadsheet of their choice.

Provided are data tables that cover 281 industries at the national and provincial levels, with information such as employment, average weekly and hourly earnings, average weekly hours and total weekly payrolls. A review article for 1995 is also featured, along with the survey methodology.

Annual Estimates of Employment, Earnings and Hours, 1983-1995 (Product no. 72F0002XDE, \$120) is now available. For further information on this new electronic product, or to order, contact the Client Services Section at (613) 951-4090; fax (613) 951-4087, or the Labour Division on the Internet: labour@statcan.ca. □

■ **LHSAD studies families and separation**

Family Income after Separation looks at after-tax income as well as family composition before and after separation. The study is restricted to legally married couples (with children) who became separated from 1987 through 1993. For the first time, the effects of alimony on the income of those who make payments can be addressed, as data on alimony are now available as a distinct component. The study also includes an extensive section on the analytical methodology used.

Family Income after Separation (Catalogue no. 13-588-MPB, no. 5) is part of the Income Analytical Reports series from the Labour and Household Surveys Analysis Division. For further information, contact Diane Galarneau at (613) 951-4626; or on the Internet: galadia@statcan.ca. □

■ **Analytical Studies Branch research papers series**

Were Small Producers the Engines of Growth in the Canadian Manufacturing Sector in the 1980s?
J.R. Baldwin
Research Paper Series no. 88

Small firms are often seen to be the engines of growth. Two facts are cited as proof of this belief. The first is that job creation has been coming mainly from small firms.

The second is that small firms' share of employment has increased in the past two decades. Both of these sources rely on a simple measure – employment. This paper asks whether changes in this measure affect the view of the role that small firms play in the growth process.

The first section of the paper uses employment to evaluate the importance of small firms, but modifies the raw measure to correct for the lower wages paid by these firms. The paper examines evidence of this differential in the manufacturing sector and notes how it has grown over time. It then uses relative wage rates to show that these small producers did not outperform large producers in creating jobs in the 1970s and 1980s.

The second section of the paper changes the measure used to evaluate relative performance by moving from employment to output and labour productivity. Thus, while small producers have increased their employment share dramatically, they have barely changed their output share. Small firms have been falling behind large firms in wages paid and in labour productivity. In relative terms, large producers have been decreasing their employment while maintaining their output share, making great strides in labour productivity.

Longitudinal Aspects of Earnings Inequality in Canada
R. Morissette and C. Bérubé
Research Paper Series no. 94

In this paper the following questions are asked: 1) even after controlling for cyclical effects, do new spells of low earnings now last longer than they used to? 2) once a male worker starts a new spell of low earnings, does he receive lower real annual wages than his counterparts did in the mid-seventies? 3) did long-term inequality in earnings rise in the eighties? The answers to these questions follow. First, even after taking account of the relatively high unemployment rates observed since the mid-eighties, workers under 35 were less likely to move out of the bottom of the earnings distribution during the 1985-92 period than they were during the 1976-84 period. In other words, new spells of low earnings lasted longer for these workers. Second, real annual wages received by young men who went through a new spell of low earnings were significantly lower from 1985 to 1993 than from 1975 to 1984. Third, during the eighties, inequality in earnings cumulated over either six or ten years rose at the same pace as inequality in annual earnings.

Changes in Job Tenure and Job Stability in Canada
A. Heisz
Research Paper Series no. 95

This paper examines changes in job stability from 1981 to 1994. It examines changes in the complete length of new jobs and looks at changes in job survival. Although

the average complete length of new jobs showed no significant trend over the period, their distribution shifted from medium- to shorter-term jobs. This means that new job holders experienced more instability at the end of the period than at the beginning. However, once the six-month milestone was passed, workers enjoyed increasing job stability, leaving the proportion of long-term jobs unchanged. This conclusion is in contrast to comparable studies done with U.S. data, which could not examine changes in jobs less than four years in length.

This pattern of change persists when different demographic groups are studied. The probability that a new job would last beyond six months declined significantly, while chances that a six month-old job would last beyond five years increased significantly, or did not change. This change represents a polarization of jobs for most Canadian workers. The only exceptions were job starters aged 45 years or over and job starters in Atlantic Canada, where there was a shift towards more short-term jobs.

Despite the steady proportion of new jobs that become long-term, there is some evidence that long-lasting jobs held by older workers are at a higher risk of ending now than in the early 1980s. However, this decline is concentrated among older workers with high seniority, which is perhaps explained by an increase in early retirement. In addition, long jobs held in the manufacturing and trade industries are less stable now than in the early 1980s, although these changes are small and offset by increased stability of long jobs in the service industries.

This paper does not attempt to identify particular causes of such changes. Overall, the trends are consistent with others that have emerged in the economy, including the rise in non-standard work, polarization of earnings and hours, and the increasing use by firms of a core of permanent employees.

Unemployment in the Stock and Flow
M. Baker, M. Corak and A. Heisz
Research Paper Series no. 97

This paper presents a framework for analyzing unemployment and applies it to Canadian and U.S. data. The analysis looks at the distinction between being unemployed and becoming unemployed, that is, between the stock and the flow of unemployment. The share of a particular group in the stock of unemployed will differ from its share in the flow into unemployment to the extent that its average duration of unemployment differs from the economy-wide average. Significant differences in the average duration of unemployment in the two countries imply that stock shares are not good indicators of flow shares, that changes in the stock share of some groups are due to changes in the flow share,

while changes for others are due to changes in the length of unemployment spells. Explanations of the Canada-U.S. unemployment rate gap should try to accommodate at least three facts uncovered by the analysis: (1) employer-initiated permanent separations account for most of the unemployment numbers in Canada, while entry into the labour force plays a more important role in the U.S. figures; (2) unemployment spells are significantly longer in Canada than in the United States because of longer spells for most groups (regardless of reason for unemployment), not because of a compositional difference in the make-up of the unemployed; and (3) Canada's longer spells and higher incidence of unemployment contribute about equally to the trend increase in the rate gap during the 1980s.

To order studies in the Research Paper Series, contact your nearest Statistics Canada Regional Reference Centre, or write to Publications Review Committee, Analytical Studies Branch, Statistics Canada, 24th floor, R.H. Coats Building, Ottawa, Ontario K1A 0T6. Or phone (613) 951-1804; fax (613) 951-5403. □

■ WHAT'S NEW WITH SLID?

■ *Release of final CD-ROM for 1993*

The final version of the SLID 1993 public-use microdata file has now been distributed. Those who had purchased the preliminary version should have received this final version automatically.

This product includes all files contained on the preliminary version, particularly the PERSON file and JOB file in ASCII format, along with SAS control cards containing the record layouts, variable labels and value labels for categorical variables.

Three major additions are intended to help users access the data more easily. First, the two microdata files are provided in IVISION format. This software allows users to construct data tables and to produce charts. Second, the microdata user's guide is provided in ACROBAT format. This allows on-line access to the guide, with searching capability to locate the section of interest. Finally, tutorials are provided to assist those who are unfamiliar with either IVISION or ACROBAT.

Users need not purchase additional software. The installation procedures copy the IVISION Browser and ACROBAT Reader to the user's machine. IVISION is a Windows-based software, so its use is restricted to those using Windows. ACROBAT can be used in Windows or on Macintosh computers.

For further information contact (613) 951-4607; fax (613) 951-3253; Internet: dynamics@statcan.ca. □

Key labour and income facts

The labour and income indicators are drawn from numerous sources, including published and unpublished annual data. These indicators, covering labour market, earnings, income and other household topics (for Canada, the provinces and territories), are kept in a database that is updated quarterly. For each indicator, a time series of 10 years (or more) is maintained.

The set of indicators can be obtained, on paper or diskette, at a cost of \$50. A document explaining the indicators is also available. Work is in progress to make the indicator data available on the Internet. For further information, contact Joanne Bourdeau at (613) 951-4722; fax (613) 951-4179, or on the Internet: bourjoa@statcan.ca.

Sources

Currently, the indicators are derived from the following sources:

Labour Force Survey

Frequency: Monthly
Contact: Deborah Sunter (613) 951-4740

Survey of Consumer Finances

Frequency: Annual
Contact: Réjean Lasnier (613) 951-5266

Absence from Work Survey

Frequency: Annual
Contact: Gabrielle Zboril (613) 951-0477

Help-wanted Index

Frequency: Monthly
Contact: Sylvie Picard (613) 951-4090

Unemployment Insurance Statistics Program

Frequency: Monthly
Contact: Sylvie Picard (613) 951-4090

Survey of Employment, Payrolls and Hours

Frequency: Monthly
Contact: Sylvie Picard (613) 951-4090

Major wage settlements, Bureau of Labour Information (Human Resources Development Canada)

Frequency: Quarterly
Information: (819) 997-3117

Labour income

Frequency: Quarterly
Contact: Ed Bunko (613) 951-4048

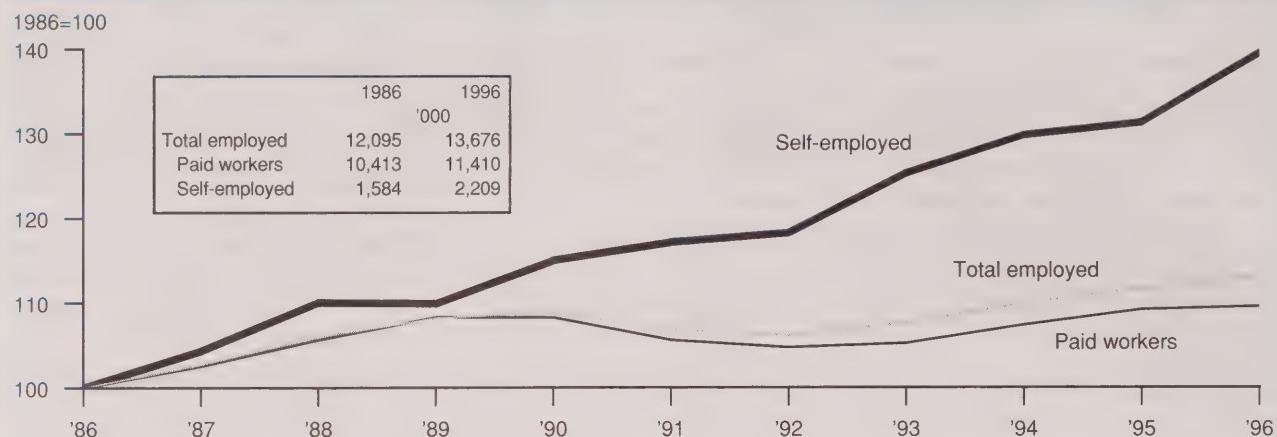
Household Facilities and Equipment Survey

Frequency: Annual
Contact: Réjean Lasnier (613) 951-5266

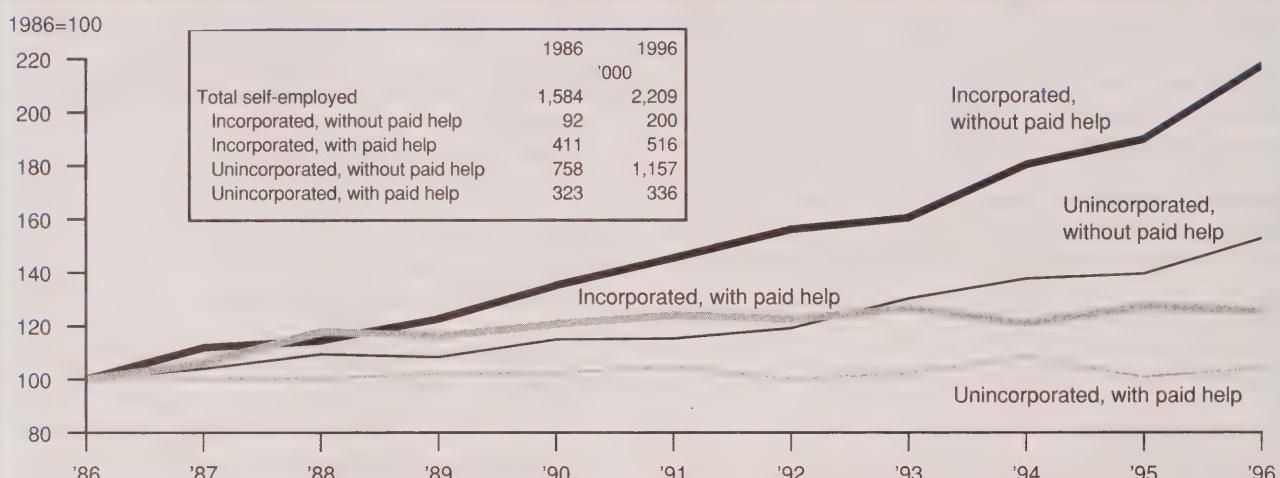
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Employment growth by class of worker



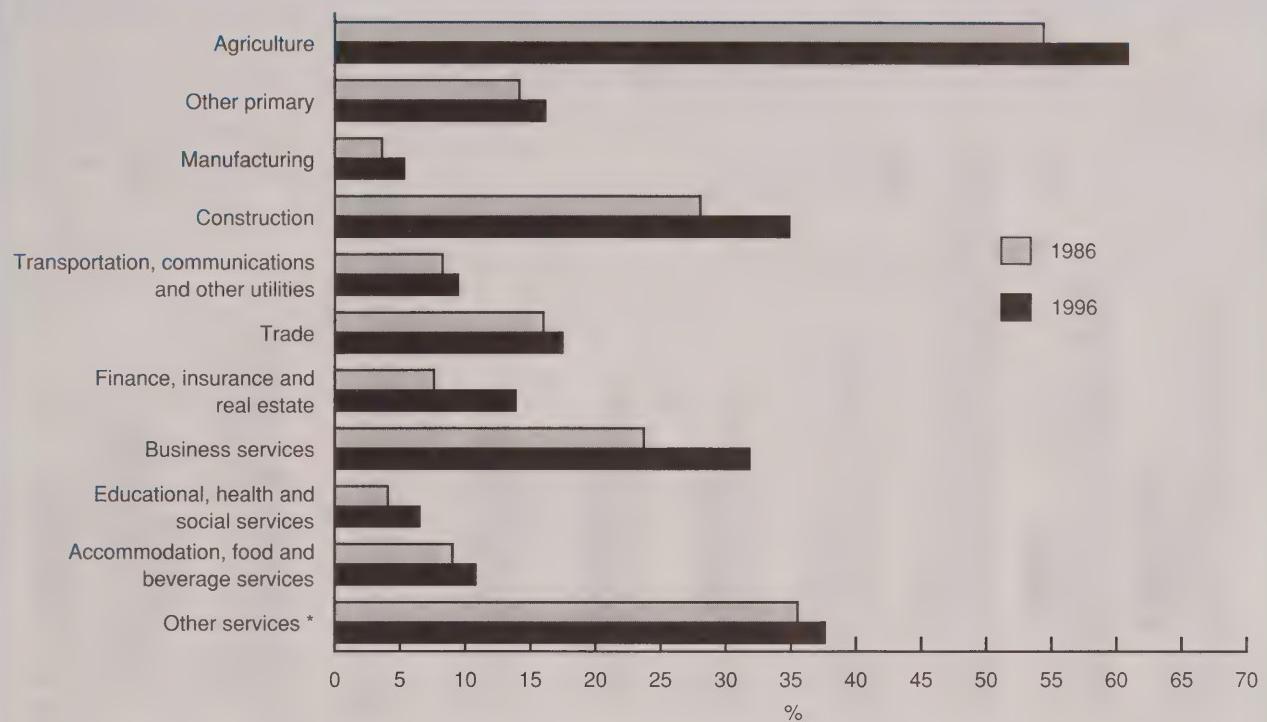
Growth in type of self-employment



Source: Labour Force Survey

- From 1986 to 1996, growth in self-employment (39%) was four times that of paid workers (10%).
- Accordingly, the proportion of all workers who were self-employed rose from 13% (1.6 million) to 16% (2.2 million).
- Among the four types of self-employment, the incorporated without paid help group experienced the greatest growth (117%) over the period. In 1996, this group numbered 200,000 or 9% of all self-employed.
- The largest group, the unincorporated without paid help, recorded the second largest growth (53%). In 1996, they numbered 1.2 million or 52% of total self-employment.

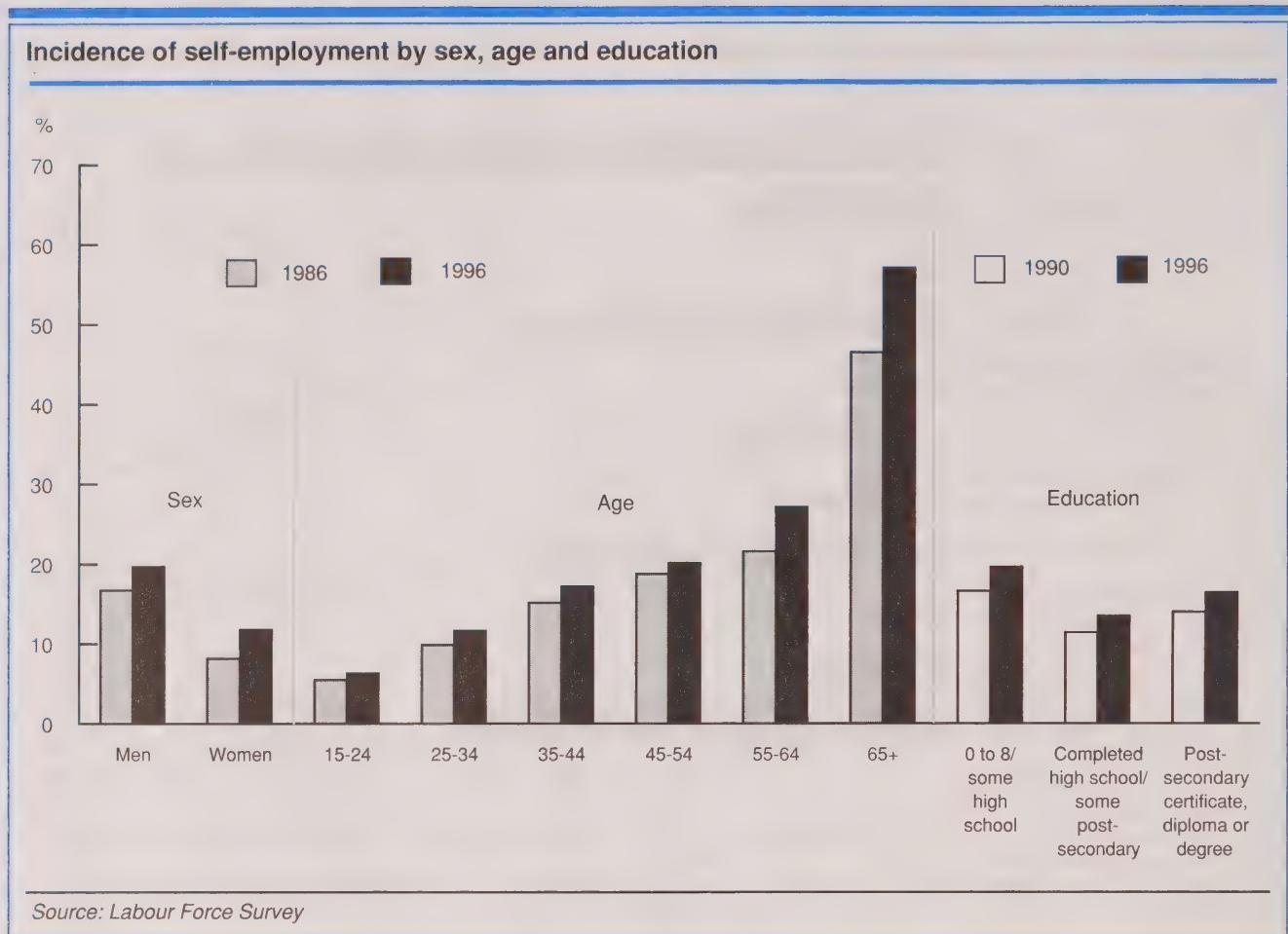
Incidence of self-employment by major industry



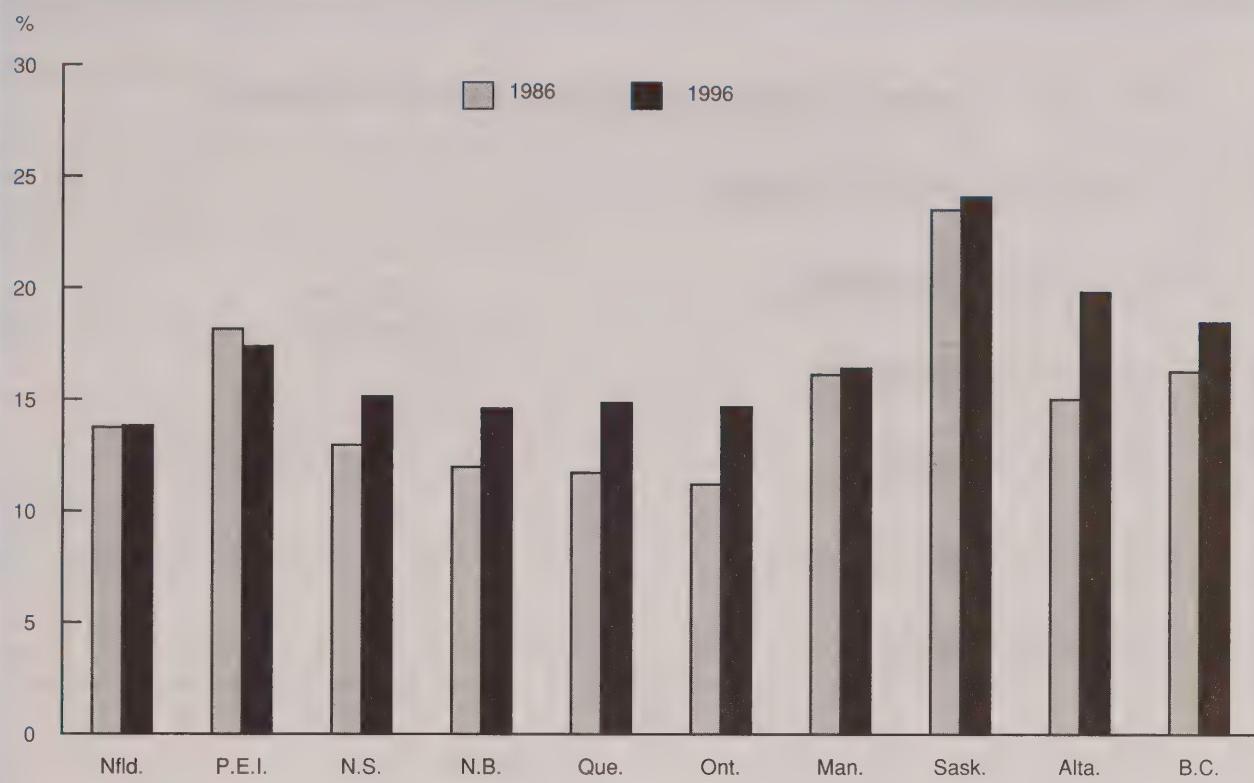
Source: Labour Force Survey

* Includes amusement and recreational services, personal and household services, membership organizations and other service industries.

- The incidence of self-employment rose in all industries. The highest incidences in 1996 were in agriculture (61% of workers were self-employed), construction (35%) and business services (32%); the lowest was in manufacturing (5%).
- Major industries recorded a rise in the number of self-employed from 1986 to 1996, with growth rates ranging from 6% in agriculture and 9% in other primary industries to 111% in finance, insurance and real estate and 124% in business services.



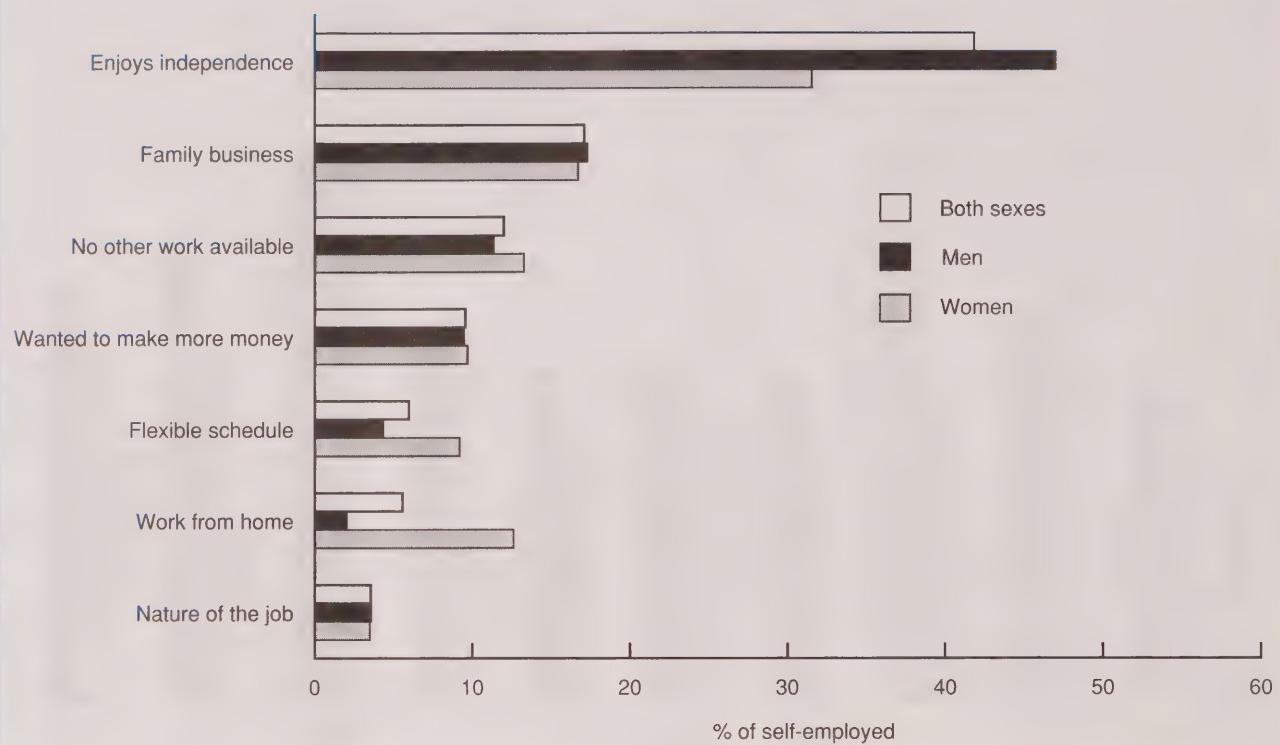
- Although the incidence of self-employment is higher among men, the growth in the number of women self-employed has been approximately three times higher (74%) than that of men (27%) over the last 10 years. In 1996, women accounted for about one-third (733,000) of all self-employed workers – much higher than their one-quarter (422,000) share in 1986.
- The incidence of self-employment tends to increase with age. In 1996, it ranged from 6% among youths to 57% among workers aged 65 or over.
- Except for youths (aged 15 to 24), who recorded an 8% drop in number, self-employment grew among all major age groups over the decade. However, the best growth rates were enjoyed by workers aged 35 or over.
- The incidence increased for all three educational attainment groups during the period. The highest rates were found among the less-educated group, many of whom were older workers.
- Between 1990 and 1996, the number of self-employed grew by 48% among workers with postsecondary certificates, diplomas or degrees, but fell by 11% among those without high school diplomas.

Incidence of self-employment by province

Source: Labour Force Survey

- Differences in provincial rates are the result of many factors, particularly the industry mix. Not surprisingly, workers in the more heavily resource-based economies of the West had the highest incidences: Saskatchewan (24%), Alberta (20%) and British Columbia (18%). Prince Edward Island also boasted a high rate (17%).
- Though all provinces recorded gains in the number of self-employed over the decade, the greatest growth occurred in Alberta (57%), British Columbia (51%) and Ontario (46%). The smallest increases were in Newfoundland (3%) and Saskatchewan (1%). Prince Edward Island was the only province to register a decline in the incidence of self-employment during the period.

Main reason for self-employment



Source: Survey of Work Arrangements, 1995

- The November 1995 Survey of Work Arrangements asked respondents to indicate their main reason for engaging in self-employment (multiple responses were not allowed). There were some notable differences in responses by sex and by age.
 - A larger proportion of men (47%) than women (32%) stated the enjoyment of independence as their main reason.
 - Women, often more burdened with household or family demands, were about twice as likely as men to quote the flexible schedule afforded by self-employment as the main reason (9% versus 4%); they were also six times as likely as their

male counterparts (13% versus 2%) to have taken that route because it permitted them to work from home.

- Youths were twice as likely as adults to cite lack of other work as their main reason for being self-employed (20% versus 12%).

Charts and text for this issue's "Key labour and income facts" were prepared by Ernest B. Akyeampong and Jeannine Usalcas, of the Labour and Household Surveys Analysis Division. They can be reached at (613) 951-4624 and (613) 951-4628, respectively.

In the works

Here are some of the topics to be featured in upcoming issues

■ Job sharing

Job sharing occurs when two people voluntarily share the responsibilities of one full-time job. This arrangement provides flexibility for employees and allows employers to retain valued workers who do not want a full-time schedule. Do shared jobs differ from regular part-time jobs? First-time national data on job sharing offer some answers to this question.

■ Change in average family income

How have changes to income from various sources contributed to changes in average family income over the years? The effect of changing "family demographics" is also examined from two perspectives: the first classifies families by type, age and presence of children, and the second, by family type and earning status of major earner(s).

■ Workplace computerization

How quickly has new information technology been adopted in the workplace and how has its introduction affected workers, firms and the economy as a whole? Data from the 1989 and 1994 General Social Surveys reveal changes in computer literacy and in the use of computers in the workplace. This report also looks at the effect of computer technology on job content and job security.

■ Retirement age

This article uses Labour Force Survey data to determine the age of those who make the transition from work to retirement. It presents findings according to various characteristics of the retirees, such as sex, education and province of residence. The nature of the last job prior to retirement, such as class of worker, occupation, industry and tenure, is also examined.

■ Leaving high school

The 1995 School Leavers Follow-up Survey re-interviewed almost two-thirds of the respondents involved in the 1991 School Leavers Survey. This article presents updated findings on the education, training and labour market experiences of youths during the first few years after leaving or graduating from high school.

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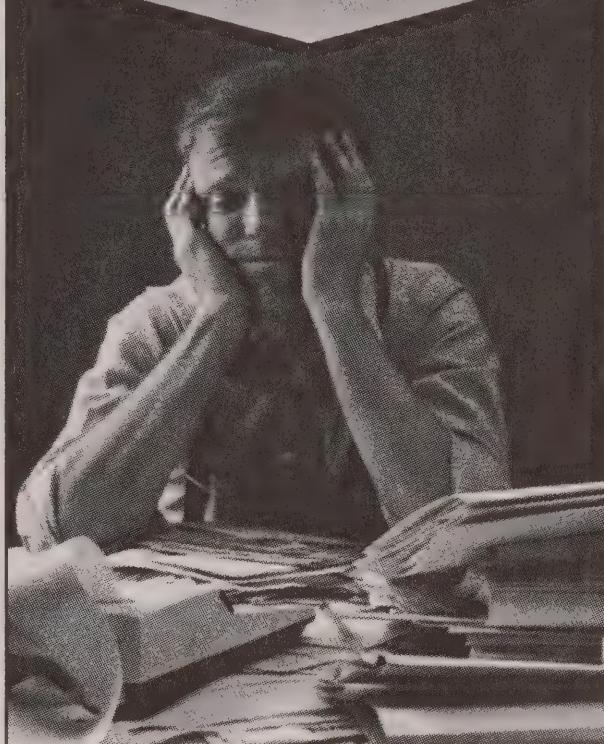
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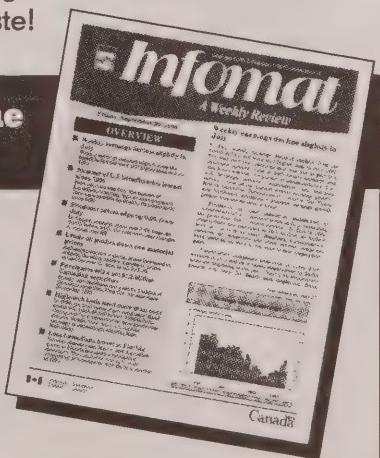
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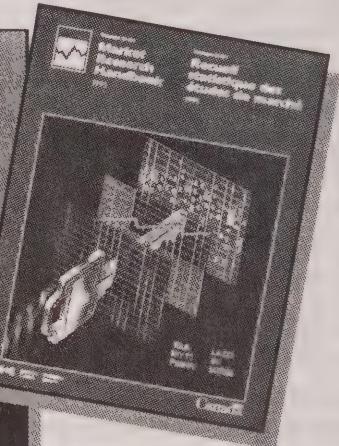
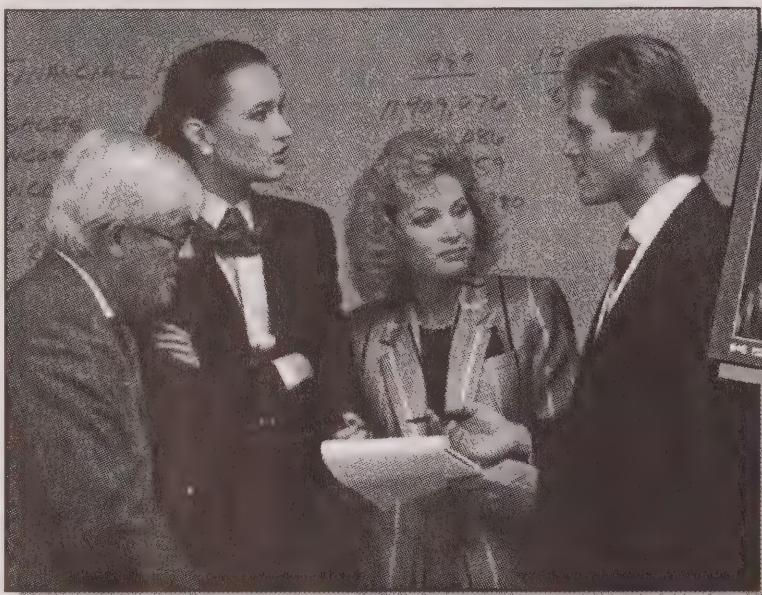
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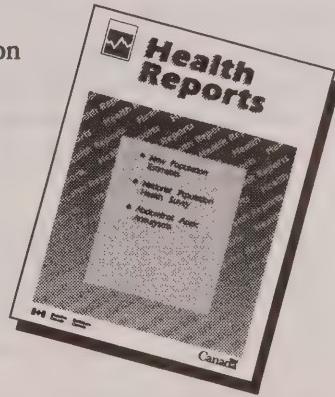
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6 Job sharing

Katherine Marshall

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11 Measuring the age of retirement

Dave Gower

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18 Family income after separation

Diane Galarneau and Jim Sturrock

This article, which is based on a study recently released by Statistics Canada, looks at married persons who became separated between 1987 and 1993 and who had children before the breakup. It tracks changes in family composition and after-tax income and looks at the relative situation of payers and recipients of support payments.

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ON LABOUR AND INCOME

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29 Computers in the workplace

Graham S. Lowe

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37 After high school...

Jeffrey Frank

The 1995 School Leavers Follow-up Survey re-interviewed about two-thirds of the respondents involved in the 1991 School Leavers Survey. This article presents updated findings on the education, training and labour market experiences of youths during the first few years after leaving or graduating from high school. (Adapted from an article in *Education Quarterly Review*, Winter 1996.)

We welcome your views on articles and other items that have appeared in *Perspectives*. Additional insights on the data are also welcome, but to be considered for publication, communications should be factual and analytical. We encourage readers to inform us about their current research projects, new publications, data sources, and upcoming events relating to labour and income.

Statistics Canada reserves the right to select and edit items for publication. Correspondence, in either official language, should be addressed to: Heather Berrea, What's new? Co-ordinator, *Perspectives on Labour and Income*, 5-D Jean Talon Building, Statistics Canada, Ottawa K1A 0T6. Telephone (613) 951-8613; fax (613) 951-4179; Internet: berrhea@statcan.ca.

For the record:

"Employment and industrial development in the North," published in the Spring 1997 issue, provided incorrect participation and employment rates for the Yukon in 1994 (Table 1). The correct figures are 75% and 65%, respectively.

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Highlights

■ Job sharing

... p. 6

- Job sharing has become a viable option for certain workers wishing to work part time in full-time positions. It has also become more widely available in both unionized and non-unionized large workplaces.
- Job sharers, most of whom were women (84%), represented 171,000 or 8% of part-time paid workers in 1995. As a whole, they were older than other part-timers, better educated and more likely to work in professional occupations.
- One in four job sharers filled teaching or nursing positions, compared with one in seven regular part-timers. Half of job sharers were parents with children at home, compared with 35% of regular part-timers.
- Quebec had the most job sharers (55,000) in 1995 and the highest job-sharing rate at 11% (job sharers as a percentage of all part-time workers).
- Shared jobs are more likely to be permanent and unionized (81% and 36%, respectively) than are regular part-time positions (71% and 23%). They are also likely to offer more benefits and higher average hourly pay. Job sharers are more likely to have worked over a decade for the same employer.

■ Measuring the age of retirement

... p. 11

- Over the past 20 years, the age of retirement has changed dramatically. The median age was close to 65 in the late 1970s and early 1980s. Starting in the mid-1980s, it declined considerably, so that by 1995 the median age was 62.
- Several factors have lowered the retirement age. In 1987, the minimum age at which one could draw benefits from the Canada Pension Plan declined from 65 to 60. During the 1990s, government cutbacks and corporate downsizing, as well as the popularity of early retirement incentives, may also have influenced recent retirement behaviour.

- People who retired at any time from 1976 to 1980 or from 1991 to 1995 were studied. The percentage of those who retired before age 55 more than doubled between these two periods, from 4% to 10%, as did that aged 55 to 59, from 12% to 24%. While 38% of retirees chose to retire between the ages of 65 and 69 in the 1976-to-1980 period, only 22% retired at this age from 1991 to 1995.
- People employed in the public sector (which includes education, health and social services, and government) saw the greatest decline in median retirement age over the study period (almost 5 years, from 64.6 to 59.8). Employees in the private sector registered a drop of 2 years, from 65.1 to 63.1, while self-employed people saw only a slight change, from 65.3 to 65.1.
- In the 1990s, workers who stayed with the same employer for 20 years or more retired 3 years earlier than those with less tenure (60.8 versus 64.1). The opposite was true for the self-employed: those with 20 years or more retired one year later (65.8 versus 64.6).
- Industries posting early retirement ages were communication (57.8), local government (58.9), utilities (59.1) and the federal government (59.3). Agriculture (65.6) and business services (65.3) registered high median ages.
- The drop in median age from the late 1970s to the early 1990s varied from only 0.7 years in British Columbia to 4.5 in Newfoundland. The other Atlantic provinces (except for Prince Edward Island) and Quebec also showed a relatively fast drop in median retirement age.

■ Family income after separation

... p. 18

- From 1987 to 1993, it is estimated that 829,200 legally married Canadians separated. In all, 963,000 children under the age of 18 were dependent on these persons prior to separation – or 1.2 children per separated person.

- The year after separation, the majority of men were single (52%), while most women headed single-parent families (68%). The great majority of women found themselves with children (89%), a less common experience for men (36%). The proportion of women with children five years after separation dropped to 76%, whereas that for men in the same situation grew to 42%.
- A significant proportion of both men and women became part of a couple in the years following separation. Though men did so earlier, the gap between the sexes was small; one year after separation 30% of men and 26% of women had formed new unions. The gap widens with time, however; five years after separation 54% of men had a new partner, but only 45% of women did.
- Between the year before and the year after separation, women suffered a 23% median loss in adjusted family income (taking into account the number of family members). This represented a decrease of close to \$3,900 (in 1993 dollars). They recovered a major portion of their losses in succeeding years, but five years after separation they were still 5% (\$1,000) below their pre-separation adjusted family income. Two factors explain these losses: women generally have a lower personal income than men and most have custody of children upon separation.
- These changes vary according to family type. Women who formed a new union experienced a gain one year after separation. Those heading single-parent families or remaining single, on the contrary, registered appreciable losses and made up a smaller proportion of it over time.
- Men's adjusted family income, in contrast, went up about 10% (\$2,000) one year after separation. The gain rose to 15% (\$2,800) five years post-separation. The size of the gain varied according to family composition. Single men had the highest increases and single fathers the lowest.
- One year after separation, recipients of support payments (women) had heavier losses in adjusted family income (-29% or -\$6,100) than separated women generally (-23% or -\$3,900). Payers (men) experienced gains in adjusted family income (20% or \$4,200) twice those of separated men in general (10% or \$2,000).

■ Computers in the workplace ... p. 29

- In 1994, 48% of workers (or 6.2 million) used computers on the job, a marked increase from 35% in 1989. Computer use at work was highest among 25 to 44 year-olds (54%), especially among women (60%). Despite higher levels of computer literacy among 15 to 19 year-olds, computer use at work was low for this group (16%), perhaps because many were working in lower-level service jobs.
- A gap exists between computer literacy and actual use of computers on the job. In 1989, 59% of workers could use a computer, yet only 35% did so in their job. By 1994, while 70% of the employed were able to use a computer, only 48% did so at work. The gap was smallest for university graduates and greatest for workers whose highest level of education was a high school diploma.
- The heaviest users of information technology are the so-called "knowledge workers" – those in natural sciences, engineering or mathematics; managerial or administrative positions; social sciences, and teaching – as well as those in the clerical field.
- The use of computers grew significantly in the manufacturing and processing occupations, gaining around 260,000 new computer users – a growth rate of 132% between 1989 and 1994. Even with this growth, only 30% of these workers reported using computers on the job in 1994. Sales workers experienced a similar growth, resulting in an additional quarter of a million users.
- Average weekly hours of computer use on the job increased from 16 in 1989 to 18 in 1994. Natural sciences, engineering and mathematics occupations; clerical occupations; and artistic, literary and recreational occupations recorded 25, 23 and 21 hours, respectively, in 1994.
- In 1994, 34% of the employed reported that their work had been greatly affected by the introduction of computers or automated technology in the previous five years, up from 29% in 1989. One group reported high percentages in both five-year periods: by 1994, 53% of men in managerial and professional occupations (compared with 45% in 1989) had been greatly affected by such change.

- Workers who experienced technological change in their jobs tended to view it in positive terms: higher skill requirements, more interesting work, and less apparent threat to job security than might be expected.

■ After high school ...

... p. 37

- Finishing high school is a longer process for some than for others. According to the 1991 School Leavers Survey, 18% of 20 year-olds had left high school before graduation. Data from the follow-up survey in 1995 indicate that by the time these same people were 24, their high school leaver rate had fallen to 15%.
- Young men are more likely to leave high school before graduation than are women. In 1995, 18% of 22 to 24 year-old men were high school leavers, compared with just 10% of women.
- Four out of five youths who were high school graduates in 1995 went on to postsecondary education or training toward a certificate, diploma or degree. In contrast, just one in four young high school leavers had done so.
- Among high school graduates, a larger proportion of women than men had continued their education (83% versus 77%). Among leavers, men were somewhat more likely than women to have taken further education or training.
- Some 42% of high school graduates reported university as their highest level of further education, and 29% reported college or CEGEP education. Only 7% of graduates took training at a trade or vocational school, or through a registered apprenticeship program.
- Leaving high school before graduation appears to have especially serious consequences for young women. Fully 30% of young female leavers were unemployed, compared with 17% of male leavers.
- Young people are keenly aware of the importance of education and training in the current labour market. In 1995, 8 out of 10 youths intended to take further education, training or instruction over the next five years. Further schooling did not figure into the futures of 23% of those without a high school diploma and 19% of graduates who had not taken any other education or training.

■ What's new?

... p. 43

- The Survey of Consumer Finances has just released two income studies: *Income After Tax, Distributions by Size in Canada, 1995*, which focuses on the effects of transfer payments and income tax on the distribution of family incomes; and *Characteristics of Dual-Earner Families, 1995*, which explores various demographic and economic characteristics of dual-earner families and compares them with those of other husband-wife families.
- *Retirement Savings through RPPs and RRSPs, 1991 to 1995* considers those who did and did not participate in retirement programs in the early nineties, by age, sex and income characteristics.
- *Labour Force Update* is a new quarterly publication that features the latest information and trends on a labour market topic. The Spring 1997 issue covers youths in the labour market. Commentary, charts and analytical tables are included.
- The first of a series of 1996 Census releases, "Population and dwelling counts," provides a national overview of changes in population distribution between 1991 and 1996. For example, Canada's population growth rate was the highest of all G-7 industrialized nations. The Census counted 28,846,761 people in Canada, up more than 1.5 million since 1991.
- The Survey of Labour and Income Dynamics (SLID) is being used by researchers at Queen's University to study multiple jobholding (moonlighting). This research will examine characteristics of moonlighters as well as the extent and type of multiple jobholding by parents of preschoolers. It will also link moonlighting behaviour with income levels. In subsequent waves of the SLID, issues related to duration of moonlighting spells will be examined.
- Analysts at Human Resources Development Canada will be using the SLID to study the social and labour market policy implications of the changing knowledge-based economy. More specifically, work is under way in the following areas: displaced workers, old jobs versus new jobs, low income dynamics, and school-to-work transitions.
- Statistics Canada is sponsoring its ninth Economic Conference, September 29 and 30, at the Château Laurier hotel in Ottawa. Topics to be addressed include technical change and training; investment patterns, and future challenges.

Job sharing

Katherine Marshall

If two heads are better than one, then perhaps job sharing is the ideal work arrangement. Simply put, two people voluntarily share the responsibilities of one full-time job, allowing employers to retain valued employees who prefer to work part time (see *Data sources and definitions* and Singh, 1991). Job sharing may also help to introduce a broader range of skills and experience to the workplace while providing a framework for continuity in the tasks performed. It also means, however, less opportunity for career advancement and increased administrative procedures (see *Advantages and disadvantages*).

Although already established in Europe, job sharing first formally appeared in the United States in the 1970s, emerging as a means of offering part-time hours in career-oriented positions normally requiring full-time work. Teaching and nursing were among the first professional positions to be shared, filled largely by women wanting to combine career and family. The public sector and large private sector corporations also adopted job sharing as an option for their employees.

This article looks at who job shares in Canada, and considers how shared jobs compare with regular part-time jobs. The 1995 Survey of Work Arrangements is used in the analysis as it offers first-time national data on this alternative work option.¹

Job sharing on the rise?

Although no data exist to track the number of people job sharing over time, some trend information is available on organizations offering job

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Data sources and definitions

The Survey of Work Arrangements (SWA), a supplement to the November 1995 Labour Force Survey (LFS), collected, among other things, data on the work schedules of paid workers. The SWA asked respondents who worked part time (fewer than 30 hours) whether they did so "because [they split] the job with someone else (a job sharing arrangement)." A note on the questionnaire reminded interviewers to make sure respondents did not confuse job sharing with shift work. Since the question is new to the SWA, and the concept relatively unfamiliar, data quality cannot be tested. Full-time workers were not asked about job sharing because they were not likely to have such an arrangement.

The Bureau of Labour Information at Human Resources Development Canada (HRDC) has maintained, since 1986, information on job sharing provisions contained in all major collective agreements in Canada. It includes all agreements (more than 1,000 in 1996) covering union membership of 500 and over.

The annual Compensation Planning Outlook Survey, administered by the Conference Board of Canada, covers mainly medium and large Canadian organizations operating in a variety of regions and sectors. The 10-page questionnaire covers issues in compensation, human resources management, industrial relations, and benefits and working conditions, and includes information on job sharing arrangements.

Paid worker: any person who receives remuneration, usually in the form of a wage or salary from an employer.

Part-time: the LFS assigns a part-time status to all persons who usually work fewer than 30 hours a week at their main or sole job.

Qualified data: all sample survey estimates, such as those in the SWA and LFS, will have some level of sampling error. Measurement of the standard error of an estimate is expressed as the coefficient of variation (CV), which is expressed as a percentage of the estimate. For the SWA, an estimate of 40,500 or more at the Canada level will have an acceptable CV of less than 16.5%. Estimates of 18,000 to 40,499 must be qualified, or used with greater caution, because their CV is likely to fall between 16.6% and 33.3%, which means the estimate is subject to high levels of error. Estimates between 10,000 and 17,999 are not reliable and are considered confidential, while those under 10,000 are not releasable.

Job sharing: refers to a voluntary arrangement in which employees (usually two), with the approval of their employer, share a single job on an ongoing basis. It is still largely an employee-initiated arrangement.

Work sharing: refers to any comprehensive arrangement requiring workers to accept reduced hours in order to avert layoffs. This situation occurs usually when a business, for reasons beyond its control, experiences a slackening demand for its goods and services in the short run.

sharing as a work option. For example, the number of major collective agreements with job sharing provisions, and hence the number of employees formally entitled to this work option,

rose from 3% of employees in 1986 to 12% in 1993 (Chart A), remaining relatively stable since then. (Other unionized employees may have had the option to job share, but official

Advantages and disadvantages

In 1982, the Commission of Inquiry into Part-time Work compiled survey results from 104 job sharers and 37 employers of job sharers (CIPW, 1983). Below are some advantages and disadvantages most often cited by job sharers and employers.

Advantages – employees

- * helps increase balance between work and family
- * have more energy and less stress
- * more flexibility with schedule
- * keeps skills current
- * more job satisfaction
- * chance to ease into retirement

Disadvantages – employees

- * more difficult to advance in career
- * less opportunity for training
- * lack of some benefits
- * less recognition as a career person
- * harder to change jobs
- * work time can extend into time off

Advantages – employers

- * productivity is higher
- * employees are more innovative
- * brings a wider range of skills to the job
- * greater organization and commitment to the job
- * more enthusiasm and less time off work
- * opportunity to keep valued employees

Disadvantages – employers

- * more supervision required
- * compensation costs can increase
- * increased discussion and communication needed
- * administrative procedures change
- * workspace difficulties
- * personal conflicts with co-sharer

8% said they shared a job with someone else. Of women working part time, almost one in 10 shared a job; just one in 20 male part-timers did so. Although women held the bulk of part-time jobs (72%), they occupied an even larger majority of shared jobs (84%).

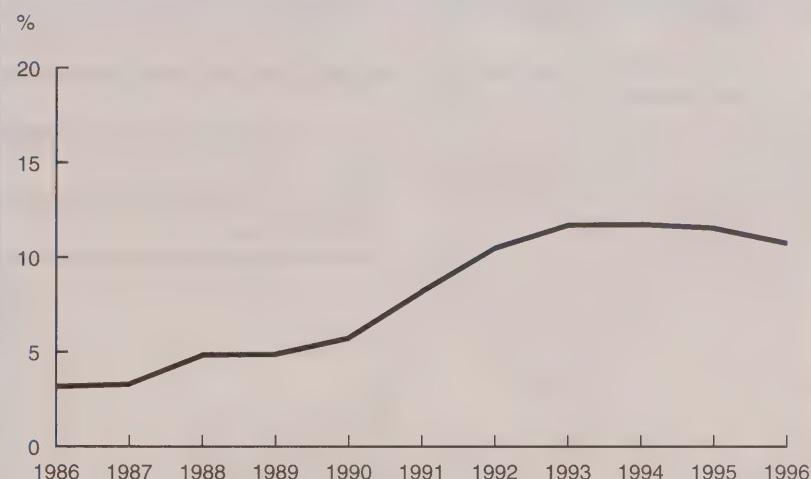
Compared with other part-time workers, people in job sharing positions tend to be older, better educated, and more likely to work in professional occupations. In 1995, more than half of job sharers were aged 35 and over, compared with 40% of regular part-timers; half of job sharers had graduated from college or university and 40% worked as professionals, compared with 37% and 25%, respectively, of regular part-timers (Table 2). Half of job sharers had children at home, versus 35% of regular part-timers. Although job sharers and regular part-timers worked roughly the same number of hours, more job sharers with pre-school aged children,

provisions had not been negotiated into their collective agreement.) Similarly, according to the Conference Board of Canada, the relative number of medium and large non-unionized organizations offering job sharing programs has risen. In 1994, the first year such organizations were asked about job sharing, 38% said they offered the option to some or all of their employees; in 1995 the proportion had increased to 41%, and by 1996, to 43%. Such figures show that job sharing has become more widely available in both unionized and non-unionized large workplaces.²

Who job shares?

Among paid workers in November 1995, one in 5 worked part time (19%). Almost one in 3 employed women worked part time, compared with one in 10 men (Table 1). Of all part-timers,

Chart A
One in 10 unionized employees * has access to job sharing provisions.



Source: Bureau of Labour Information, Human Resources Development Canada

* Employees belonging to major unions only (membership over 500).

Table 1
Paid workers by work status and sex

	Both sexes	Men	Women
'000			
Total employed	11,084	5,776	5,309
Full-time	8,968	5,192	3,776
Part-time	2,116 **	584	1,532
Job share	171	28 *	143
Non-job share	1,935	552	1,383
%			
Total employed	100	100	100
Full-time	81	90	71
Part-time	19	10	29
Part-time	100 (100)	100 (28)	100 (72)
Job share	8 (100)	5*(16*)	9 (84)
Non-job share	91 (100)	95 (29)	90 (71)

Sources: Labour Force Survey and Survey of Work Arrangements, 1995

Note: Distributions in parenthesis are to be read across.

* Qualified data (see Data sources and definitions).

** This total includes the 10,500 part-timers who did not state whether or not they job shared.

given the choice, said they would keep their current working hours (64%); only 54% of other part-timers with young children would do so. These findings suggest that job sharing's original appeal – allowing career people with children to better balance work and family – continues today.³

The types of professional position shared have changed little since job sharing was introduced. Teaching and nursing made up 25% of all job sharing occupations in November 1995, compared with 14% of all other regular part-time work (Chart B). This finding is not surprising, given that these professions have been traditionally female-dominated.

Most common in Quebec

Although most part-time workers in 1995 were in Ontario (over 800,000), less than 7% of these (53,000) job shared. Quebec, on the other hand, was home to fewer part-timers (almost 500,000) but slightly more job sharers (55,000), who represented 11% of all part-timers in the province (Table 3).

Shared jobs are higher quality

The belief that people who job share are more likely than regular part-timers to work in the public sector, in large private sector firms and in urban areas is not fully supported by the findings. The SWA results show that slightly more job sharers than regular

part-time workers were public employees (19% versus 14%) (Table 4); however, virtually the same proportion of job sharers and regular part-timers worked in firms with 100 or more employees (one in 5). As well, over 80% of both lived in an urban area.

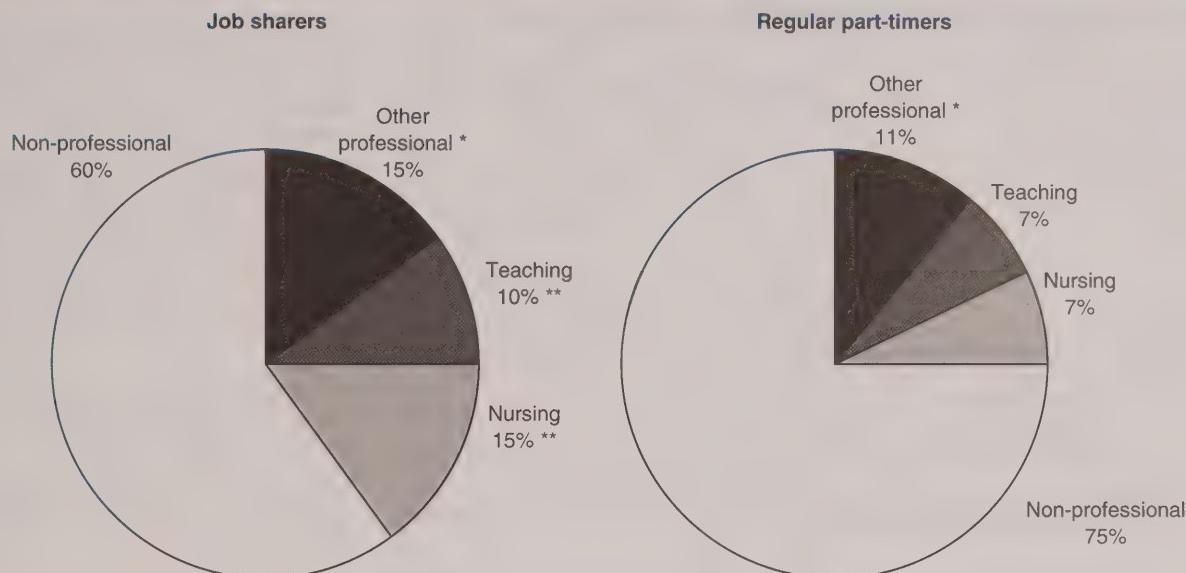
However, the attributes of shared jobs do differ from those of regular part-time work. In 1995, more than 80% were permanent and 36% unionized, compared with 71% and 23%, respectively, for regular part-time jobs. One in 5 job sharers had worked in the job for over 10 years, compared with one in 10 regular part-timers.⁴ The average hourly pay was better as well, at \$13.51 for shared and \$10.96 for regular part-time (a reasonable finding considering the educational and occupational attainment among these workers). Benefits offered to job sharers were also considerably better than those offered regular part-timers. For example, 45% of job sharers said they received paid vacation,⁵ compared with 29% of regular part-timers (Chart C). Approximately one in 3 job sharers was entitled to a supplementary health care plan, paid sick leave, dental plan, and private pension. Just under one in 5 regular part-timers enjoyed each of these benefits. Full-time workers were twice as likely as job sharers to be so entitled.

Table 2
Selected demographic characteristics of job sharers and regular part-timers

	Total part-time	Job share	Regular part-time
		%	
Aged 35 or over	41	54	40
Diploma or degree	38	49	37
Professional occupation *	26	40	25
Children <25 at home	36	50	35
Children <16 at home	40	48	40
Children <6 and prefer current hours	55	64	54

Source: Survey of Work Arrangements, 1995

* Includes managerial and administrative; natural sciences, engineering and mathematics; social sciences; religion; teaching; medicine and health; and artistic, literary and recreational occupations.

Chart B**Four in ten job sharers are professionals.**

Source: Survey of Work Arrangements, 1995

* Includes managerial and administrative; natural sciences, engineering and mathematics; social sciences; religion; other medicine and health; and artistic, literary and recreational occupations.

** Qualified data (see Data sources and definitions).

Summary

Findings show that 171,000 (8%) of part-time paid workers were job sharing in November 1995, and that most of these workers (84%) were women. Compared with regular part-time employees, people who job shared were much more likely to be university-educated, hold professional occupations, and have children at home. Also, shared jobs were more often permanent and unionized, and offered more benefits and higher pay than regular part-time positions. Quite simply, a shared job was more likely to be a "good" part-time job than was a regular part-time position.

Although it is still not a widely practised work arrangement, job sharing is becoming an increasingly

**Table 3
Job sharers and regular part-timers by region**

	All part-timers '000	Distribution		part-timers '000	Distribution		Job sharers '000	Distribution		as % all part-timers %
		%			%			%		
Canada	2,116 *	100		1,935	100		171	100		8
Atlantic	142	7		133	7		--	--		--
Quebec	484	23		429	22		55	32		11
Ontario	814	38		758	39		53	31		7
Prairies	376	18		347	18		28 **	16 **		7 **
British Columbia	300	14		268	14		27 **	16 **		9 **

Source: Survey of Work Arrangements, 1995

* This total includes the 10,500 part-timers who did not state whether or not they job shared.

** Qualified data (see Data sources and definitions).

**Table 4
Selected characteristics of job sharers and regular part-timers**

	Total part-time	Job share	Regular part-time
		%	
Public employee	15	19	14
Firm size 100 +	19	21	19
Urban residence *	83	84	83
Permanent job	72	81	71
Job tenure >10 years	12	22	11
Unionized	24	36	23
		\$	
Hourly pay **	11.22	13.51	10.96

Source: Survey of Work Arrangements, 1995

* Population concentration of 1,000 or more and a population density of 400 or more per square kilometre.

** Derived average for all workers, including those salaried and paid by the hour.

sharing, was conducted during December 1995 and April 1996.

2 Neither HRDC nor the Conference Board survey covers smaller union or non-unionized organizations.

3 Another reason people may choose to work fewer hours is to attend school. Some 21% of job sharers and 34% of regular part-time workers gave school as the main reason for working part time.

4 This refers to the length of time the respondent had been at the current job, not to the length of time he or she had been job sharing. For example, for a high school teacher who had taught at the same school for 15 years but had shared the position for the last 5, job tenure would be 15 years.

5 Although employment standards and labour laws generally entitle employees to at least two weeks of paid vacation, some workers do not enjoy such a benefit. These include some contract, term, casual and on-call workers. It is possible that some workers who were expected to take pay in lieu of vacation time may have responded negatively to the related survey question.

■ References

Chapin, V.J. *Work Life and Personal Needs: The Job-Sharing Option*. A background paper prepared for Human Resources Development Canada. Ottawa: Supply and Services, 1990.

Commission of Inquiry into Part-time Work (CIPW). *Part-time Work in Canada: Report of the Commission of Inquiry into Part-time Work*. Ottawa: Supply and Services Canada, 1983.

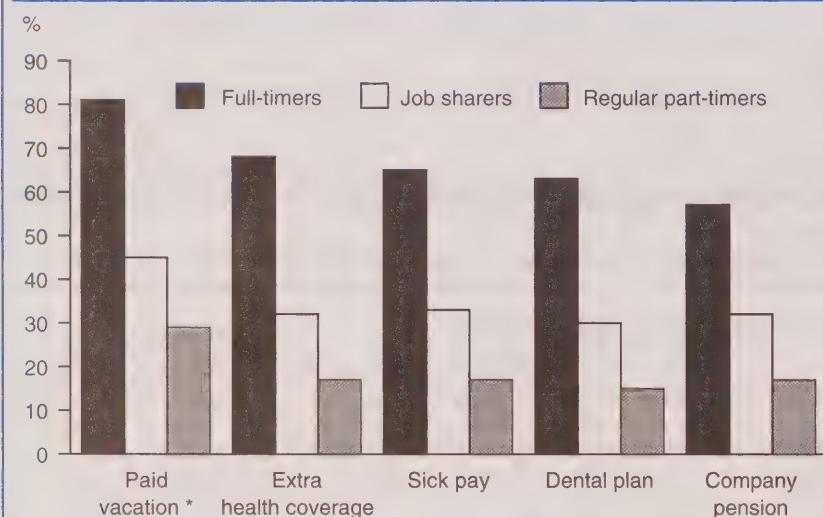
Olmsted, B. and S. Smith. *The Job Sharing Handbook*. San Francisco: New Ways to Work, 1996.

---. *Creating a Flexible Workplace: How to Select and Manage Alternative Work Options*. New York: AMACOM, 1989.

Singh, S. "A note on the Work Sharing Program." *Perspectives on Labour and Income* (Statistics Canada, Catalogue no. 75-001-XPE) 3, no. 4 (Winter 1991): 56-59.

Chart C

Job sharers are more likely to have employment benefits than are regular part-timers.



Source: Survey of Work Arrangements, 1995

* See note 5.

important work option. More employers are offering alternative work arrangements as a way of keeping valued employees and creating a committed workforce. □

■ Notes

1 The Workplace and Employee Survey is currently being developed by Statistics Canada. A pilot test, including employee- and employer-related questions on job

Measuring the age of retirement

Dave Gower

As the first of the baby boomers turn 50, retirement is becoming an increasingly important topic. Yet measuring retirement is not as simple as one might think. How does one decide who is retired and who is not? Is it necessary to be in receipt of a pension? Can a person who has a part-time job still be considered retired? (For a brief discussion of these issues, see *Data source and definition*.)

Until now, little information has been available on who is retiring, and at what age. To fill this gap, data from the Labour Force Survey (LFS) have been reorganized back to 1976, which should allow study of emerging retirement trends.

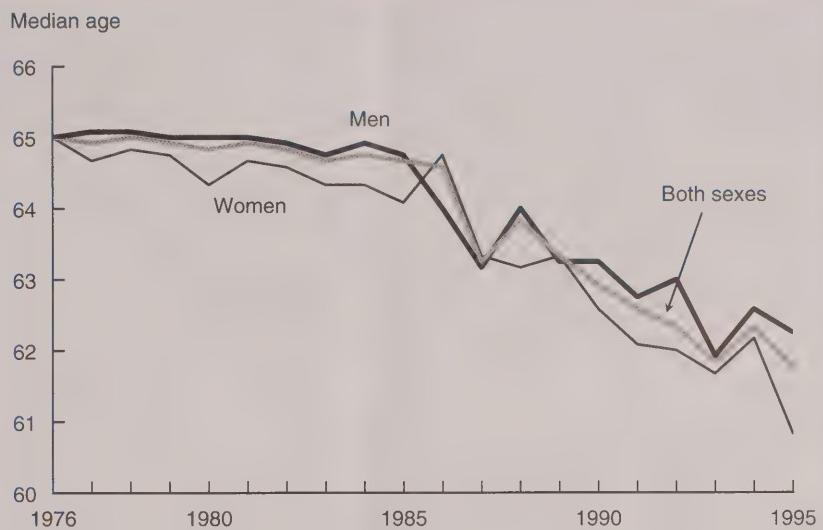
The purpose of this article is to present a method of estimating the distribution of ages at retirement (and from these distributions, medians), and to describe what these distributions look like over time, by such characteristics as retirees' education, sex, employment class and industry of last employment.

Earlier retirement...

Over the past couple of decades,² the age of retirement has changed dramatically. The median age was close to 65 in the late 1970s and early 1980s. Starting in the mid-1980s, it declined considerably (Chart), both in Canada and abroad.

Between 1986 and 1993, median retirement age dropped more or less steadily. The sharp drop between 1986 and 1987 is likely explained by the lowering in 1987 of the minimum age at which one could draw benefits

Chart
Retirees are younger than ever.



Source: Labour Force Survey

from the Canada Pension Plan – from 65 to 60. In 1988, retirement age increased, probably because most people wishing to take advantage of this early retirement option had done so the previous year. After 1988, however, the trend toward earlier retirement resumed.

During the 1990s, the age has fluctuated, presumably because of such factors as government cutbacks and corporate downsizing. The popularity of early retirement incentives as a tool for workforce adjustment may also have influenced recent retirement behaviour.

Over most of the past two decades, women retired slightly earlier than men, with the two sexes following a similar trend. There were exceptions,

however. In 1986, for example, women retired later than men.

but not for everyone

This study looks at people who retired at any time during the 5-year period at either end of the data series (1976 to 1980 and 1991 to 1995). Initially, the most popular age for retirement was between 65 and 69 (38% of retirees); at the end of the study period, it was 60 to 64 (37%) (Table 1).

The change is more noticeable, however, in the proportion of those retiring at younger and older ages. The percentage under age 55 more than doubled, from 4% to 10%, as did that aged 55 to 59, from 12% to 24%. On the other hand, fewer people waited past age 65.

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Data source and definition

The Labour Force Survey asks people who are not working, and who have left their last job within the year prior to being surveyed, why they left this job. One of the response categories is "retired." An analysis of data for this question revealed that most self-described retirees tended to fit an expected profile of retirement; that is, they were over age 50 and not working full time in the half-year following their response to the survey.

Self-reporting of retirement will miss some retirees; for example, those who have left a job because of sickness or layoff, and who, although they would not initially call themselves retired, never work again. On the other hand, some who declare themselves retired may later decide to return to the workforce. So this series should be taken as an indicator of the retirement process.

Future data should help to provide a more complete measure of work departures, including such information as lifetime work history and availability of a pension.¹

Measuring retirement

The Labour Force Survey (LFS) was designed to measure a certain point in time: one reference week each month. The new data on retirement, while derived from the LFS, are based on a cumulation of events over time. This difference has a number of statistical and conceptual implications.

A comparison of regular LFS data with those in this study illustrates the difference. During 1995, for example, an average of 4,778,000 people aged 50 and over were counted as "not in the labour force," that is, neither working nor looking for work. Of these, some 273,000 had worked in the past 12

months. Of this group, 113,000 had retired. (For another 94,000 the main reason for leaving that job was a layoff, and for 28,000, illness or injury.)

These data refer to people who worked in the past year. Many of the remainder are also retired, but how many there are, and when they retired, is not known.

To provide a meaningful series on retirement, the data are reorganized. Each survey month is scanned and everyone who claims to have retired in the previous year is recorded. The month of retirement is taken to be the same as the month last worked. A list of retirees is then organized according to the *month in which they retired*, rather than the month of the survey. Special adjustments to the sampling weights produce an unbiased estimate of retirees in the country.

To calculate the age at retirement, the number of months between retirement and the survey is established. The reported age (in whole years) is then reduced by this amount. Because the respondent's actual birthday is not known, it is assumed to be 6 months prior to the survey. This assumption may misjudge a person's retirement age by as much as .5 years. Such errors should cancel out, however, and should eventually disappear because survey procedures were revised in late 1996.

As very few people under age 50 report retirement as a reason for leaving their job, only those aged 50 or over when they retired are included in this study.

For all retired people (except for a few "permanently unable to work") information is gathered on the last job, specifically, that on industry, occupation, length of tenure and employment class (paid worker or self-employed).

The fact that these data refer to the last job is important to the analysis. Some people's last job may not be indicative of their careers; these people may have switched jobs shortly before retirement. For this reason, those with brief job tenures are best considered a "residual" group, that is, representing people with a wide but unknown mix of work histories.

The LFS keeps respondents in the sample for 6 consecutive months. For this study, however, only the response in the first month is used. This self-perceived retirement status is not updated thereafter, even though the respondent's situation may change after that first interview.

According to a preliminary study, a few retirees took jobs in the following 5 months. Many of these jobs were part-time, which may mean simply that someone had decided to fill in the time or to supplement a pension.

The majority of people over 50 who left the workforce gave reasons other than retirement for leaving the last job. The two most common reasons were "laid off" and "sickness or disability." A high percentage of this group re-entered the labour force within 5 months of the initial LFS interview. Many more likely found jobs later. In the context of the current exercise, those who remained out of the workforce would be missed from the analysis.

To see how many retirees might be missing, the study compared numbers from the new data set with those for new beneficiaries of the Canada and Quebec Pension Plan (C/QPP). During the 1990s, the LFS-derived numbers covered about three-quarters of this group, not all of whom would receive full C/QPP pensions. Most people leaving long-term careers should be captured by the database, however.

Sector/class of work and length of tenure

Many factors influence the timing of retirement. Among the most important are the type of last job and length of tenure⁴ (Table 2).

For workers overall, the median age of retirement declined from 64.9 to 62.3 over the study period. People employed in the public sector (which includes education, health and social services, and government), already the youngest to retire from 1976

Table 1
Distribution of ages at retirement

	1976-1980		1991-1995	
	'000	%	'000	%
Total	407	100	620	100
50-54	15	4	59	10
55-59	48	12	149	24
60-64	142	35	228	37
65-69	154	38	139	22
70+	48	12	45	7

Source: Labour Force Survey

to 1980, saw the greatest decline in median age (4.8 years, from 64.6 to 59.8). Employees in the private sector retired an average half-year later than public sector workers at the beginning of the period, a gap that increased to about 3 years in the 1990s (63.1 versus 59.8).

Self-employed people, whose median age of retirement remained steady over the study period (shifting from 65.3 to 65.1), retired later than paid workers. Those with unincorporated businesses and no employees retired last. Industry accounts for much of the age difference between self-employed and paid workers.

How long one worked in a job prior to retirement seems to have a strong correlation with retirement age. This is not surprising. People who stay with one employer for a long time have an opportunity to build up substantial entitlements in a pension plan if one is available. Furthermore, employers offering good pension plans (for example, school boards, some large companies and governments) often provide longer tenure. As might be expected, early retirement is more prevalent in such workplaces. Employer pensions have also been linked with higher retirement incomes (Gower, 1995).

In the 1990s, workers with job tenure of 20 years or more retired an average 3 years earlier than those with under 20 years (aged 60.8 versus

64.1). Among the self-employed, however, the opposite was true. Those with 20 years or more retired, on average, one year later (65.8 versus 64.6). This, combined with their slower rate of decline in median retirement age, suggests that self-employed workers reach the decision to retire in a very different manner.

Industry and education make a difference

Public and private are very broad definitions. A more detailed examination reveals some notable patterns; for instance, early retirement ages were recorded in communication, both federal and local governments, and utilities (Table 3).

Overwhelmingly, the 11 industries whose workers retired before age 63 were also those with the fastest decline in retirement age (more than 2 years). In contrast, those recording relatively late retirement ages also experienced the least decrease.

Undoubtedly, many factors are at play here. In particular, certain industries that were downsizing in the 1990s may have introduced early retirement programs (see Appendix).

Months chosen for retirement

Not surprisingly, people favour some months over others to make the leap. Two months stand out: June and December, with the former more popular. People who retire during the summer tend to be slightly younger than those who do so in autumn or winter.

Little has changed over the two decades. The patterns for men and women are similar, though women are more likely to retire in June. This may relate to the number of women retiring from teaching.

Distribution of retirees by month of departure, 1991-1995

	Both sexes		Men		Women	
	%	Median age	%	Median age	%	Median age
All months	100.0	62.3	100.0	62.4	100.0	61.8
January	7.6	62.8	7.8	62.3	7.1	63.2
February	5.9	61.9	6.3	62.2	5.2	61.4
March	7.5	61.3	8.2	62.3	6.2	60.4
April	7.7	62.3	7.3	62.3	8.6	62.4
May	6.9	62.2	6.8	62.7	7.1	61.8
June	16.3	61.8	14.8	62.1	19.1	60.8
July	6.8	61.1	6.8	61.8	6.6	60.2
August	6.4	62.3	6.0	63.3	7.0	61.6
September	8.4	63.1	8.7	63.3	7.6	61.8
October	7.6	63.3	7.6	63.3	7.4	62.8
November	6.9	62.8	7.0	63.4	6.7	62.3
December	12.2	62.0	12.7	61.9	11.3	62.4

Source: Labour Force Survey

Table 2
Median age at retirement, and length and sector/class of employment

Job tenure	Sector/class	1976-1980		1991-1995	
		'000	Median age	'000	Median age
Overall	All retirees (aged 50+)*	407	64.9	620	62.3
	Public paid workers	100	64.6	183	59.8
	Private paid workers	233	65.1	342	63.1
	Self-employed	62	65.3	89	65.1
<20 years	All retirees (aged 50+)*	206	65.1	269	64.1
	Public paid workers	48	64.9	59	62.1
	Private paid workers	132	65.3	169	64.6
	Self-employed	24	65.1	39	64.6
20+ years	All retirees (aged 50+)*	196	64.8	349	60.8
	Public paid workers	52	62.2	124	58.6
	Private paid workers	101	64.9	173	61.3
	Self-employed	37	66.1	50	65.8

Source: Labour Force Survey

Note: Job tenure and sector/class refer to last job prior to retirement. See note 4.

* Because unpaid family workers are not accounted for in the sub-categories but are included in the totals, numbers do not add to totals.

Overall, men tended to retire slightly later than women (aged 62.4 versus 61.8). This difference held for people in most education groups except those with only a high school diploma (Table 4).

Changes in the LFS data prevent a comparison of education groups over time, but in the 1990s, at least, differences between those lacking high school graduation and those with higher education were much greater than those between the sexes. People with a postsecondary certificate, diploma or degree, for example, retired 3 years earlier than those with 8 years of schooling or less.

Differences between provinces have widened

At the beginning of the study period, provincial retirement findings were uniform (Table 5). The highest median retirement age (65.2 in Prince Edward Island) was almost the same as the lowest (64.8 in British Columbia).

By the 1990s, however, differences had increased considerably. The gap between the highest age (64.2 in Saskatchewan) and the lowest (60.4 in Newfoundland) widened to 3.8 years.

While Canadians everywhere opted for earlier retirement, the drop in median age varied from only 0.7 years in British Columbia to 4.5 in Newfoundland. The other Atlantic provinces (except for Prince Edward

Island) and Quebec also showed a relatively fast drop in median retirement age.

Different factors influence provincial findings. For example, in Saskatchewan, the prevalence of

Table 3
Median age at retirement by industry,* and change over time

	1976-1980	1991-1995	Change between periods
Agriculture	65.3	65.6	0.3
Business services	66.0	65.3	-0.7
Other services	65.4	64.8	-0.6
Construction	65.3	64.8	-0.5
Retail trade	65.1	64.7	-0.4
Wholesale trade	65.0	63.7	-1.3
Finance, insurance and real estate	65.1	62.6	-2.5
Health and social services	64.9	62.3	-2.6
Other primary	64.8	62.2	-2.6
Manufacturing	64.8	61.8	-3.0
Transportation and storage	64.8	61.1	-3.7
Education	64.8	61.0	-3.8
Provincial government	64.9	60.0	-4.9
Federal government	62.0	59.3	-2.7
Utilities	64.6	59.1	-5.5
Local government	65.0	58.9	-6.1
Communication	63.0	57.8	-5.2

Source: Labour Force Survey

* According to last job prior to retirement.

International trends

A falling employment rate is not necessarily indicative of earlier retirement. For example, the rate could drop if more people were working intermittently. Nonetheless, the Organisation for Economic Co-operation and Development

(OECD) reports that for 16 of its member countries, most have seen declining work activity since the mid-1970s among 55 to 64 year-olds, especially among men. Canada's results are about in the middle (OECD, 1995).

More recent Canadian data show a continuation of the 1975-to-1991 movements listed below. Employment rates in 1996 for Canadian men aged 55 to 59 and 60 to 64 were 66.6% and 41.4%, respectively. Comparable figures for women were 45.1% and 22.0% (Labour Force Survey).

Employment rate in selected OECD countries

	1975	1991	Change		1975	1991	Change
	%		% point		%		% point
Men aged 55 to 59							
Australia	85.8	65.6	-20.2	Spain	26.0	20.7	-5.3
United Kingdom *	89.7	71.6	-18.1	New Zealand	32.3	30.0	-2.3
France *	81.3	64.2	-17.1	Germany *	37.2	35.2	-2.0
Finland	74.2	57.4	-16.8	Finland	56.7	55.8	-0.9
Netherlands	76.8	60.6	-16.2	Ireland	20.1	19.3	-0.8
Ireland	76.1	60.2	-15.9	France *	41.9	41.2	-0.7
Spain	84.4	68.9	-15.5	United Kingdom *	51.7	51.9	0.2
Canada *	83.6	69.5	-14.1	Australia	30.6	33.7	3.1
New Zealand	66.0	53.3	-12.7	Netherlands	17.1	21.9	4.8
Germany *	82.7	70.2	-12.5	Portugal	36.4	41.6	5.2
Portugal	80.4	73.9	-6.5	Japan *	48.1	54.5	6.4
Norway	86.6	81.2	-5.4	United States *	45.2	53.5	8.3
United States *	79.8	74.4	-5.4	Canada *	34.5	42.9	8.4
Sweden	88.9	85.0	-3.9	Norway	49.6	63.0	13.4
Japan *	89.3	91.7	2.4	Sweden	60.1	78.4	18.3
Italy *	..	..	..	Italy *	..	..	..
Men aged 60 to 64							
Netherlands	62.3	20.8	-41.5	France *	28.9	15.3	-13.6
France *	55.1	19.1	-36.0	Finland	27.8	19.7	-8.1
Finland	55.1	28.0	-27.1	Germany *	15.2	9.8	-5.4
Spain	68.6	43.0	-25.6	United Kingdom *	28.6	24.1	-4.5
Canada *	67.9	44.3	-23.6	Spain	19.5	15.1	-4.4
United Kingdom *	74.6	51.0	-23.6	Netherlands	10.4	7.5	-2.9
Germany *	55.2	31.9	-23.3	New Zealand	32.3	30.0	-2.3
Australia	66.1	43.4	-22.7	Australia	15.4	14.4	-1.0
Ireland	76.1	60.2	-15.9	Canada *	23.4	22.5	-0.9
Portugal	73.7	58.1	-15.6	Ireland	20.1	19.3	-0.8
Norway	76.9	62.2	-14.7	Portugal	27.2	28.0	0.8
New Zealand	66.0	53.3	-12.7	Italy *	8.5	9.9	1.4
United States *	61.6	52.0	-9.6	United States *	31.3	33.6	2.3
Sweden	72.3	62.9	-9.4	Japan *	37.6	40.2	2.6
Italy *	42.1	34.4	-7.7	Norway	40.0	47.5	7.5
Japan *	76.8	70.6	-6.2	Sweden	37.6	53.4	15.8

Source: Organisation for Economic Co-operation and Development

Notes: Second column data for Germany are for 1990; change is for 1975 to 1990.

Data for Ireland and New Zealand are for ages 55 to 64.

Earliest data for New Zealand are for 1986; change is for 1986 to 1991.

* G-7 country.

agriculture may help to explain the high and relatively stable retirement age. Further east, Quebec's lowering of the minimum age of entitlement from 65 to 60 in 1984 – three years

before a similar move by the Canada Pension Plan – may have accelerated the trend to younger retirement in that province.

British Columbia has the second highest retirement age after Saskatchewan, with almost no change since the late 1970s. The reason for this is not immediately obvious and is

**Table 4
Median age at retirement by sex and education, 1991-1995**

Education	Both sexes		Men		Women	
	'000	Median age	'000	Median age	'000	Median age
Total	620	62.3	404	62.4	217	61.8
0-8 years	125	64.6	94	64.7	31	64.4
Some secondary	122	63.0	81	63.3	41	62.0
High school graduation	113	61.1	63	61.0	51	61.7
Some postsecondary	28	62.2	16	62.2	13	61.2
Postsecondary certificate, diploma or degree	232	61.2	151	61.3	81	61.0

Source: Labour Force Survey

complicated by the fact that the province designation is based on where the person was living when surveyed (that is, after retirement). Migration to British Columbia after retirement, as well as immigration patterns in general, may play a role (Monette, 1996).

A complex picture

This article notes retirement patterns connected to downsizing, geographical location, self-employment status, and the public and private sectors, among others.⁵ Of the many subgroups examined, virtually all showed a movement toward younger retirement. Yet many people are still working close to or beyond the "traditional" retirement age of 65. Some of these, like many self-employed, may choose to do so for various reasons. Others, particularly those with lower levels of education, may have little choice but to carry on until they qualify for an old age pension at 65.

Certain groups in society are much more likely to retire younger than others. Workers with postsecondary education and those with long-term jobs tend to leave early, especially if they worked in the public sector.

It is tempting, but risky, to predict that retirement age will continue to drop. The statistics of the mid-1990s were undoubtedly affected by early

retirement incentives; it is quite likely, then, that the ages may level out or even increase in future. As in the past, changes in legislation and business practices will play a major role. □

Notes

1 The Survey of Labour and Income Dynamics (SLID) captures information on lifestyle transitions as well as sources of income. These data, however, start in 1993 and hence do not provide a measure of long-term trends.

2 The available data series starts in 1976. Because it is necessary to look back one year to determine who retired, the most recent data available at writing were for people who retired in 1995.

3 People in certain occupations (for example, some tenured university professors) seem to work to quite advanced ages. And for many the transition from work to retirement takes more than one step. In fact, of those who waited until 70 or later to retire, 44% had held a part-time job prior to retirement, compared with about 16% of all retirees.

4 The data relate to the retiree's last job. At least some of those with less than 20 years' tenure may have held a long-term job sometime earlier. If those jobs could also be measured, differences in retirement age between people with short and long job tenures would probably increase.

5 Topics not touched on here that are also raised by the data set include the effect of a growing number of highly educated workers, the retirement decisions of working spouses, and the characteristics of people who hold "bridging" (usually part-time and/or service) jobs prior to retirement.

References

Frenken, H. "The pension carrot: Incentives to early retirement." *Perspectives on Labour and Income* (Statistics Canada, Catalogue no. 75-001-XPE) 3, no.3 (Autumn 1991): 18-27.

**Table 5
Median age at retirement by province**

	1976-1980		1991-1995		Change between periods
	'000	Median age	'000	Median age	
Canada	407	64.9	620	62.3	-2.6
Saskatchewan	21	65.1	23	64.2	-0.9
British Columbia	52	64.8	76	64.1	-0.7
Alberta	32	64.9	50	63.0	-1.9
Prince Edward Island	2	65.2	3	62.3	-2.9
Ontario	164	65.0	263	62.3	-2.7
Manitoba	20	65.0	29	62.2	-2.8
Quebec	84	64.9	131	61.1	-3.8
Nova Scotia	14	65.0	21	60.7	-4.3
New Brunswick	11	64.9	15	60.7	-4.2
Newfoundland	6	64.9	9	60.4	-4.5

Source: Labour Force Survey

Gower, D. "Men retiring early: How are they doing?" *Perspectives on Labour and Income* (Statistics Canada, Catalogue no. 75-001-XPE) 7, no.4 (Winter 1995): 30-34.

Monette, M. *Canada's Changing Retirement Patterns: Findings from the General Social Survey*. Catalogue no. 89-546-XPE. Ottawa: Statistics Canada, 1996.

Organisation for Economic Co-operation and Development. *The Transition from Work to Retirement*. Social Policy Studies no. 16. Paris: OECD, 1995.

Appendix Retirement patterns by industry *

	1976-1980		1991-1995	
	'000	Median age	'000	Median age
All workers (aged 50+)	407	64.9	620	62.3
Agriculture	32	65.3	24	65.6
Business services	10	66.0	20	65.3
Other services **	26	65.4	35	64.8
Construction	18	65.3	30	64.8
Retail trade	44	65.1	52	64.7
Wholesale trade	16	65.0	23	63.7
Finance, insurance and real estate	20	65.1	40	62.6
Health and social services	27	64.9	52	62.3
Other primary	9	64.8	14	62.2
Manufacturing	80	64.8	95	61.8
Transportation and storage	28	64.8	34	61.1
Education	29	64.8	72	61.0
Provincial government	11	64.9	21	60.0
Federal government	18	62.0	36	59.3
Utilities	6	64.6	11	59.1
Local government	12	65.0	22	58.9
Communication	8	63.0	21	57.8
Paid workers (aged 50+)	333	64.9	526	61.8
Agriculture	4	65.9	4	65.2
Business services	8	66.0	14	65.0
Other services **	17	65.6	22	64.9
Construction	12	65.3	21	64.8
Retail trade	33	65.1	37	64.3
Wholesale trade	13	65.1	17	64.2
Finance, insurance and real estate	19	65.0	34	62.8
Health and social services	25	64.9	49	62.3
Manufacturing	77	64.8	91	61.6
Other primary	7	64.8	11	61.3
Education	29	64.8	71	60.9
Transportation and storage	25	64.7	31	60.8
Provincial government	11	64.9	21	60.0
Federal government	18	62.0	36	59.3
Utilities	6	64.6	11	59.1
Local government	12	65.0	22	58.9
Communication	8	63.0	21	57.8
Self-employed	62	65.3	89	65.1
Agriculture	21	65.4	18	65.9
Retail trade	10	65.2	15	65.4
Other primary	1	66.1	3	65.0
Construction	6	65.3	9	64.9
Other services **	9	65.4	13	64.8

Source: Labour Force Survey

Note: These categories describe the last job held prior to retirement. They may or may not reflect a person's lifetime work history.

* Excludes some groups with too small a sample to provide a reliable estimate, so the groups will not add to total. Likewise, industries in the self-employed category exclude unpaid family workers.

** Includes accommodation, food and beverage services, personal and household services and other services.

Family income after separation

Diane Galarneau and Jim Sturrock

The economic situation of ex-spouses presents an often striking discrepancy between men and women. A number of studies have demonstrated a clear deterioration in the economic status of women in the year following separation, and an immediate improvement in that of men (Duncan and Hoffman, 1985; Weitzman, 1985; Steward and Steel, 1990; Finnie, 1993; Peterson, 1996).

This article is an extract of a recent longitudinal study that looked at the income of separated persons in Canada (Statistics Canada, 1997a). That analysis was based on a new version of Statistics Canada's Longitudinal Administrative Databank (LAD), which covers virtually the whole Canadian population (see *Data source*). It has recently become possible to subtract support payments from the income of payers, who have been required to report these separately since 1986, so the study should enrich the discussion about the setting of child support payments. New rules relating to this issue came into effect May 1, 1997, aiming to "[ensure] that Canadian children whose parents separate or divorce receive the financial support they deserve" (Department of Finance, 1996).

The study focused on married¹ persons who became separated² between 1987 and 1993 and who had children before the breakup. It tracked changes in family composition and after-tax income. Attention was also paid to the relative situation of payers and recipients of support payments. Finally, income sources of separated persons were compared before and after separation. This article presents key find-

Data source

This article is based on the Small Area and Administrative Data Division's (SAADD) Longitudinal Administrative Databank (LAD). (For more information see Statistics Canada, 1997c.) At the time of writing, this covered a 12-year period from 1982 to 1993. It is derived from SAADD's T1 file of families created from Revenue Canada income tax returns. The LAD represents a random sample of 10% of all taxfilers and their dependants who have social insurance numbers (SIN). This is a new version of the LAD, which formerly covered only 1% of taxfilers and persons with SINs. The database is "longitudinal," meaning once individuals are selected for inclusion they remain in the file year after year. Some selected individuals may be missed in certain years because they did not file a tax return, or did so after the deadline. In 1993, the non-weighted LAD contained information on 2,083,590 individuals; when weighted, it covered over 96% of the Canadian population (according to post-censal estimates).

While the LAD includes only a few demographic and labour-related variables, it does contain valuable information on income.

ings and several tables published in the study.

All separated persons

Change in family composition

Family composition was examined the year before separation (T_{-1}) and in subsequent years ($T_{+1}, T_{+2}, \dots, T_{+5}$). The actual year of separation (T_0) was not really considered because of the many family adjustments taking place at the time.³ Separated persons were divided into three family types depending on whether they had become part of another couple, were the heads of

Matching of couples in the LAD

Even though the T1 family file and the LAD contain information on families, they remain files of individual records. The family files are built up through a series of operations; spouses and children are identified using such variables as name, SIN, age, sex, mailing address, marital status and certain tax credits. Different variables are used to match couples, depending on whether they are married or living common law.

Married couples are matched primarily by their SINs, since these individuals are required to report the SIN of their partner on the tax form. Some people living common law may have been counted as married if they reported their partner's SIN. Before 1992, however, there were few ways to match couples living common law, since they were not recognized as couples by Revenue Canada. They were matched by their mailing address and such variables as age of *de facto* spouse and family name, to avoid matching a son with his mother or a brother with a sister.

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single-parent families, or were single.⁴ By definition, everyone in the sample had been married in the year prior to separation (T_{-1}) and all had dependent children (Table 1).

The year after separation (T_{+1}), the majority of men were single (52%), while most women headed single-parent families (68%). The great majority of women found themselves with children under 18 years (89% in T_{+1}), a less common experience for men (36%).⁵ The proportion of women with children later dropped to 76% in T_{+5} whereas that of men in the same situation grew to 42%.

**Table 1
Change in family composition, all separated persons, 1987-1993**

	T ₋₁	T ₀	T ₊₁	T ₊₂	T ₊₃	T ₊₄	T ₊₅
'000							
Men							
Sample size	381	381	306	251	198	148	99
							%
Family composition							
All separated men	100	100	100	100	100	100	100
Couples	100*	10	30	39	45	50	54
Single parents	...*	29	18	16	14	13	11
Single persons	...*	61	52	46	41	37	35
Proportion of men who declared dependent children under 18	100	32	36	39	40	42	42
'000							
Women							
Sample size	448	448	374	310	244	184	123
							%
Family composition							
All separated women	100	100	100	100	100	100	100
Couples	100*	10	26	33	38	42	45
Single parents	...*	83	68	61	55	50	46
Single persons	...*	8	5	6	7	8	9
Proportion of women who declared dependent children under 18	100	89	89	86	82	79	76

Source: Longitudinal Administrative Databank, 1986-1993

* By definition, in the year preceding separation (T₋₁) everyone in the sample is married.

A significant proportion of both men and women became part of a couple in the years following separation. Though men did so earlier, the gap between the sexes was small; one year after separation 30% of men and 26% of women had formed new unions. The gap widens with time, however; five years after separation 54% of men had a new partner, but only 45% of women did.

Five years after separation, some 35% of men were single, while a large percentage of women (46%) headed single-parent families.

Family income after separation

Post-separation income is expressed as after-tax income⁶ in 1993 dollars. This has been adjusted for the number of family members in order to

make family income comparable regardless of family type (see "Adjusted family income" in Appendix I – Methodology). Support payments have been deducted from the total income of those paying, since they no longer have use of this money; no adjustment is made for recipients, as the amount is already included in their total income.⁷ Changes in adjusted family income (AFI) are measured up to five years after separation (T₊₅). Comparisons are always with the situation prior to separation (in T₋₁), to show whether separated persons eventually resume their former income level and, if not, how much it changes. Results given are medians.

In the year of separation (T₀), women experienced a median loss of around 38% (\$7,100) of AFI. This number must be interpreted with cau-

tion, though, because of the many changes in conjugal living arrangements taking place that year.⁸ For this reason the analysis focuses on results for succeeding years.

After separation, women lost around 23% of AFI (close to \$3,900)⁹ between T₋₁ and T₊₁ (Table 2). They recovered a major portion of their losses in succeeding years, but by T₊₅ they were still 5% (\$1,000) below their pre-separation AFI. These losses are attributable to two factors: first, women generally have a lower personal income than men; thus, many lose a major source of financial support on separation. Second, most women have custody of their children upon separation; this is taken into account when family income is adjusted for the number of family members.

In general, women who formed new relationships seemed to be less affected financially than those heading single-parent families or remaining single. Not only did the latter two lose a significant portion of their income after separation, but they made up a smaller proportion of it over time and did so more slowly. Consequently, five years after separation single mothers still had 21% (\$3,700) less than their pre-separation income, and single women still had 19% (\$3,600) to make up. Five years after separation these two groups still accounted for over 55% of separated women. Of the remaining women, those in couples experienced post-separation gains of 8% in T_{+1} and 14% in T_{+5} .

Men's AFI, in contrast, immediately went up about 10% (\$2,000) after separation (T_{+1}).¹⁰ The gain eventually (T_{+5}) rose to 15% (\$2,800). The size of the gain varied according to family composition. Single men had the highest increases and single fathers the lowest. With time, men living in a new relationship did somewhat better than single men. These AFI gains arose because men whose incomes were higher than women's contributed more to family income before separation (T_{-1}), and because fewer men than women lived with their children after separation.

A recent study based on an earlier version of the LAD and covering the

period 1982 to 1986, found an increase in men's adjusted family income of 11%, 14% and 8%,¹¹ respectively, one, two and three years after separation (Finnie, 1993). Respective figures for women were decreases of 33%, 29% and 30%.

If splitting of family assets is taken into account (homes, furniture, automobiles, pension plans and so on), different results are possible, given the considerable amounts that may be exchanged between spouses but do not show up in the LAD. In the case of a pension plan, for example, the accrued value at the time of separation must be divided between the spouses. If not, the pension paid on retirement

Table 2
Median changes * in adjusted family income (AFI), all separated persons, 1987-1993

	T_0	T_{+1}	T_{+2}	T_{+3}	T_{+4}	T_{+5}
%						
Men						
All separated men	11	10	10	12	12	15
Couples	24	11	12	14	15	18
Single parents	--	1	1	3	3	5
Single persons	16	14	14	13	13	16
Women						
All separated women	-38	-23	-18	-13	-10	-5
Couples	4	8	9	11	13	14
Single parents	-41	-31	-29	-26	-24	-21
Single persons	-33	-32	-29	-25	-22	-19
1993 \$						
Men						
All separated men	2,000	2,000	2,000	2,200	2,400	2,800
Couples	4,500	2,100	2,300	2,700	2,900	3,200
Single parents	--	100	100	500	500	800
Single persons	3,000	2,800	2,600	2,500	2,600	2,900
Women						
All separated women	-7,100	-3,900	-3,000	-2,300	-1,600	-1,000
Couples	700	1,300	1,500	1,900	2,300	2,600
Single parents	-7,700	-5,700	-5,400	-4,800	-4,300	-3,700
Single persons	-7,300	-6,800	-6,100	-5,100	-4,700	-3,600

Source: Longitudinal Administrative Databank, 1986-1993

* The median percentage changes do not necessarily correspond to the median income changes because medians were calculated separately.

will be reduced proportionately unless other arrangements are made. For most couples, pension plans are among the most important holdings. In couples where only the man had such a plan, the sharing of retirement funds can be a major issue. This is why some people opt for alternative arrangements, such as signing over a larger portion of the house or other family assets to the ex-partner in order to maintain full pension on retirement. At present, there are no data on such arrangements or on the total worth of family assets;¹² therefore, it is difficult to determine how these variables might affect the results noted here.

Shared custody is also not accounted for by tax data. Some divorce statistics show that shared custody takes place in 15% to 20% of divorces, though these figures can vary over

time (Statistics Canada, 1997b). Not known are the costs involved in shared custody, or which partner claims the deduction for dependent children.

The following subsection shows income levels for men and women before and after adjustment for the number of family members, whose effect seems most important for women.

Adjusting family income

Family income of separated persons has been adjusted for several factors, including the number of persons dependent on that income, to take into account the economies of scale achieved when several people live together (Table 3). This adjustment used an equivalence scale based on low income measures. To make it comparable to the income of a single individual, family income for a person in a couple

was divided by 1.4, and that for a couple with a child by 1.7, and so on (see "Adjusted family income" in Appendix I – Methodology).

This calculation affects women's post-separation income more than men's, since women usually have custody of the children. Thus, in T₊₁, family income for women overall slipped from \$23,300¹³ to \$13,700 when adjusted, and that for men dropped from \$28,500 to \$21,900.

Payers and recipients of support payments

In the year following separation, 35% of separated women in this sample were receiving support payments,¹⁴ while 44% of separated men were payers. These ratios may seem low, given that everyone in the sample had children at the time of separation, but

Table 3
Median family income, unadjusted and adjusted, all separated persons, selected years

	T ₋₁	T ₀	T ₊₁	T ₊₅
Unadjusted income (1993 \$)				
Men				
All separated men	38,500	26,700	28,500	33,200
Couples	38,500	43,900	41,600	43,200
Single parents	...	29,800	30,400	29,500
Single persons	...	23,100	22,800	22,400
Women				
All separated women	36,400	18,000	23,300	28,100
Couples	36,400	35,900	38,300	40,700
Single parents	...	17,100	20,600	22,100
Single persons	...	14,300	13,900	15,300
Adjusted income (1993 \$)				
Men				
All separated men	19,300	21,900	21,900	22,600
Couples	19,300	24,600	22,100	23,700
Single parents	...	19,400	19,700	19,100
Single persons	...	23,300	22,800	22,400
Women				
All separated women	18,200 *	10,900	13,700 *	16,500
Couples	18,200	18,300	19,100	20,800
Single parents	...	10,000	12,100	13,000
Single persons	...	14,600	14,000	15,300

Source: Longitudinal Administrative Databank, 1986-1993

* The difference between median incomes in this table may not coincide with median changes shown in other tables since medians are calculated separately.

some of the men not paying support had custody; in fact, 28% of all separated men (in T_{+1}) reported dependent children and were grouped with the non-payers. For some of this group, however, the children would belong to their new partners. Other arrangements, as with shared custody, do not show up in income tax files. To be recognized as such by Revenue Canada, support payments have to be a fixed amount paid regularly. Couples who had opted for lump-sum or irregular payments would thus not appear in the LAD. Whatever the case, it is difficult to estimate the proportion of men who should pay but do not, because of a lack of national data on the subject.

The proportion of recipients later dropped to 29% (in T_{+5}), while that for payers slipped to 39%. These drops reflect the fact that, with time, financial ties between children and non-custodial parents diminish because of reduced need or changes in the fam-

ily situation of one or both ex-spouses (Furstenberg and Cherlin, 1991).

Both payers and recipients of support payments tend to behave similarly with respect to new unions. Women receiving payments are much less likely than non-recipients to form new relationships. Likewise, men paying support take longer than non-payers to do so. As a consequence, a greater proportion of payers than separated men in general find themselves single (46% versus 35% in T_{+5}). Likewise, recipients are more likely to be single mothers than other separated women (62% versus 46% in T_{+5}) (Tables 1 and 4).

Family income after separation

When the analysis is restricted to payers and recipients of support payments, the gap in AFI between men and women widens. One year after separation, recipients have heavier

losses (-29% or -\$6,100) than separated women generally (-23% or -\$3,900). Payers experience gains in AFI (20%, or \$4,200) twice those of separated men in general (10%, or \$2,000) (Tables 2 and 5). In subsequent years, compared with all separated women, recipients recover a lower portion of their losses and do so more slowly. On the other hand, compared with separated men overall, payers see larger increases in AFI.

Recipients thus fare relatively less well than separated women in general, in spite of receiving support payments. This group consists largely of single parents (82%, as opposed to 61% of non-recipients in T_{+1}), who remain so longer (by T_{+5} , 62% of recipients were still in this category, versus 40% of non-recipients). Most of them have children under 18 to care for (in T_{+1} , 96%, compared with 85% of non-recipients), a situation that persists for at least five years (in T_{+5} , 92% of

Table 4
Change in family composition, payers and recipients, * 1987-1993

	T_{-1}	T_0	T_{+1}	T_{+2}	T_{+3}	T_{+4}	T_{+5}
Payers (men)							
Sample size	12,300 **	120,500	134,800	109,100	82,700	59,600	38,300
				%			
All payers	100	100	100	100	100	100	100
Couples	100	12	22	31	39	44	49
Single parents	-	17	10	9	8	7	5
Single persons	-	71	68	60	54	48	46
Recipients (women)							
Sample size	13,000 **	119,400	130,300	106,200	79,700	56,600	35,600
				%			
All recipients	100	100	100	100	100	100	100
Couples	100	8	16	22	27	32	35
Single parents	-	88	82	76	71	66	62
Single persons	-	4	2	2	2	3	3

Source : Longitudinal Administrative Databank, 1986-1993

* Male recipients of support payments and female payers have been excluded because of their small number (less than 2% each). Broken down into small segments, the figures are not significant.

** In T_{-1} , some people were paying or receiving benefits covering previous relationships.

Table 5
Median changes * in AFI and AFI levels, payers and recipients, ** 1987-1993

	T ₀	T ₊₁	T ₊₂	T ₊₃	T ₊₄	T ₊₅
	%					
Payers (men)						
All payers	21	20	20	22	24	30
Couples	32	25	26	27	30	35
Single parents	6	7	7	8	9	9
Single persons	25	22	21	21	23	26
Recipients (women)						
All recipients	-41	-29	-26	-22	-19	-14
Couples	1	9	10	10	11	14
Single parents	-43	-33	-32	-29	-28	-24
Single persons	-27	-40	-41	-32	-29	-21
1993 \$						
Payers (men)						
All payers	4,500	4,200	4,300	4,500	5,000	5,900
Couples	6,500	5,200	5,500	5,700	6,200	7,100
Single parents	1,200	1,400	1,300	1,700	1,800	1,700
Single persons	5,200	4,400	4,300	4,200	4,600	5,300
Recipients (women)						
All recipients	-8,700	-6,100	-5,400	-4,500	-3,900	-3,000
Couples	100	1,900	2,200	2,100	2,100	2,900
Single parents	-9,300	-7,000	-6,700	-6,100	-5,900	-5,100
Single persons	-6,800	-9,500	-9,500	-8,000	-6,100	-5,900
	T ₋₁	T ₀	T ₊₁	T ₊₂	T ₊₃	T ₊₄
	Median AFI (1993 \$)					
Payers (men)						
All payers	21,700	26,300	25,500	25,800	26,100	26,400
Couples	21,700	28,500	27,100	27,800	28,200	28,700
Single parents	...	22,400	22,900	22,400	22,100	22,200
Single persons	...	27,100	25,600	25,600	25,500	25,300
Recipients (women)						
All recipients	20,100	12,000	14,700	15,800	16,600	17,000
Couples	20,100	20,600	22,700	23,200	22,900	23,000
Single parents	...	11,300	13,600	14,200	14,700	15,100
Single persons	...	17,000	15,100	15,800	18,300	18,900

Source: Longitudinal Administrative Databank, 1986-1993

* The median of percentage changes does not necessarily correspond to the median income changes, because medians were calculated separately.

** Male recipients of support payments and female payers have been excluded because of their small number (less than 2% each). Broken down into small segments, the figures are not significant.

recipients and 70% of non-recipients still had children under 18 in their care).

In general, payers of support experienced a greater growth in income than separated men in general. In fact, they had a higher median family income (not adjusted for family size) than non-payers, even after allowing

for support payments (in T₊₁, payers had \$29,300 and non-payers \$27,700). Moreover, they maintained a slight edge throughout the observation period (\$34,800 versus \$32,200 in T₊₅). This may indicate that having a higher income increases the likelihood of their making support payments. As time passed, if they kept their advan-

tage, it was largely because more of them remained without children (in T₊₁, 81% of payers had no children living with them, as opposed to 50% of non-payers; by T₊₅, the proportions were 72% and 50%, respectively). Also, a relatively large proportion of non-payers headed single-parent families (23% in T₊₁

Table 6
Median changes * in AFI according to various scenarios, payers, ** 1987-1993

	T ₀	T ₊₁	T ₊₂	T ₊₃	T ₊₄	T ₊₅
%						
Payers (men)						
If both support and tax are subtracted	21	20	20	22	24	30
If only tax is subtracted	37	43	41	42	43	47
Couples						
If both support and tax are subtracted	32	25	26	27	30	35
If only tax is subtracted	42	41	41	42	44	48
Single parents						
If both support and tax are subtracted	6	7	7	8	9	9
If only tax is subtracted	16	22	22	22	23	25
Single persons						
If both support and tax are subtracted	25	22	21	21	23	26
If only tax is subtracted	43	47	46	45	46	50
1993 \$						
Payers (men)						
If both support and tax are subtracted	4,500	4,200	4,300	4,500	5,000	5,900
If only tax is subtracted	7,600	8,500	8,500	8,600	8,800	9,600
Couples						
If both support and tax are subtracted	6,500	5,200	5,500	5,700	6,200	7,100
If only tax is subtracted	8,900	8,600	8,600	8,900	9,200	9,900
Single parents						
If both support and tax are subtracted	1,200	1,400	1,300	1,700	1,800	1,700
If only tax is subtracted	3,400	4,500	4,300	4,700	4,600	4,500
Single persons						
If both support and tax are subtracted	5,200	4,400	4,300	4,200	4,600	5,300
If only tax is subtracted	8,900	9,300	9,300	9,100	9,200	10,100

Source: Longitudinal Administrative Databank, 1986-1993

* The median percentage changes do not necessarily correspond to the median income changes, because medians were calculated separately.

** In this article, male recipients of support payments and female payers have been excluded because of their small number (less than 2% each). Broken down into small segments, the figures are not significant.

and 14% in T₊₅, compared with 10% and 5%, respectively, for payers).

Among those receiving support payments, income differed significantly by family type. In fact, only those women who formed new relationships avoided major declines in AFI; they registered gains throughout the period, which reached 14% by T₊₅. Women heading single-parent families and single women, in contrast, suffered sizeable losses; even after five years, they still had over 20% to make up. The situation for payers was less variable; men who were heads of single-parent families were the only ones to register smaller gains in AFI.

The importance of the definition of income

Support payments have been declared separately to Revenue Canada since 1986, hence, they could be subtracted from the payer's income. This section examines the extent to which changes in the AFI of those making support payments would have differed if support payments had not been subtracted. (For a measure of the importance of support payments to recipients, see Galarneau, 1992.)

The subtraction of support payments generally has a considerable

effect on the AFI of payers. Had it not been subtracted, the AFI of payers would have risen by 43% in T₊₁ rather than 20% (Table 6). The extent of the difference depends on family composition, with the greatest difference occurring for single men.

Conclusion

After separation, men become part of a couple again more quickly than women, though the difference is not significant (30% are part of a couple after a year, compared with 26% of women). Some 52% of men are single, while 68% of women are single parents. This difference between the

sexes still exists five years after separation, although it is less pronounced because a high proportion of individuals have again become part of a couple.

One year after separation, women most often have custody of the children – 89% lived with children under 18 years of age, compared with 36% of men. Five years after separation, this proportion falls to 76% for women and rises to 42% for men.

Women experience a considerable decrease in adjusted family income (taking into account the number of family members) after separation (-23%, or -\$3,900 one year later); men show an increase of 10% (\$2,000). Five years after separation, women have recovered a large part of their loss, but still have an adjusted family income 5% (\$1,000) lower than before separation. Men maintain their initial advantage, even increasing their gains to 15% (\$2,800) by five years post-separation. Unlike most men, women experience a decline in adjusted family income following separation, both because their personal income is usually lower and because they most often have custody of the children.

These calculations do not take into account all factors that come into play during a separation, such as moving costs, division of family property and shared custody. It is difficult to evaluate the extent of their influence on results, since no data on them currently exist.

These changes in family income vary with family type. Women on their own and those who are heads of single-parent families experience the greatest loss. A year after separation, their adjusted family income has fallen by 32% (\$6,800) and 31% (\$5,700), respectively. Women who are part of a couple experience an increase of around 8% (\$1,300). Men who are single have the highest increases and those who are single parents, the lowest.

Some 35% of women receive support payments the year following separation, while 44% of men make payments. Recipients experience greater losses in adjusted family income than separated women overall (-29% or -\$6,100 one year after the breakup), while payers post gains twice those of separated men in general (20% or \$4,200).

Support payments significantly reduce payers' gains in adjusted family income. If these payments had not been subtracted, payers would have experienced increases of 43% (\$8,500) instead of 20% (\$4,200). Five years after separation, gains would have reached 47% (\$9,600), but instead were reduced to 30% (\$5,900). These figures show the importance of the definition of income.

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Notes

1 The term "married" is used here for simplicity. In fact, some people living common law are counted as married (see "Matching of couples in the LAD" in *Data source*).

2 The LAD makes no distinction between divorces and separations. Thus, the term "separation" includes both separations and divorces, and the term "separated individuals" also includes persons who are divorced.

3 Some people leave home and others may join the family. In some cases, this can distort the analysis. For example, during the year of separation the proportion of men as heads of single-parent families may be overestimated because it is possible for them to declare dependent children even if they did not live with them for the full year. Thus, some fathers will have been counted as heads of single-parent families in the year of separation, when, in fact, they were living alone. The drop in the proportion of men as heads of

single-parent families, from 29% to 18% from T_0 to T_{+1} , supports this. As will be seen later, income changes may also be overestimated in T_0 .

4 Single individuals do not necessarily live alone. They are defined as such because they live neither with a partner nor with their children.

5 These percentages do not represent the number of women and men who had *custody* of children born before the separation. Tax returns do not make a distinction between "having custody of a child" and "having a dependent child." In certain cases, dependent children could be those of the new spouse.

6 After-tax income corresponds to *total income* (on the Revenue Canada tax return) from which tax paid has been subtracted; no deductions have been considered. Quebec tax was estimated by the Small Area and Administrative Data Division because Quebec tax does not appear on Revenue Canada tax returns.

7 On the one hand, support payments made by payers were overestimated because payers could claim tax deductions for them. On the other hand, payers' after-tax incomes adjusted for support payments were underestimated because gross rather than net support amounts were deducted. These were, nonetheless, the best estimates possible.

8 For example, the LAD does not note the exact time of year when separation takes place. This may affect the results. In the case of someone separating early in the year, individual income reported as of December 31 that year will reflect the actual income on which that person lived for most of the year. But in the case of someone separating in December, for example, the reported income may not reflect the income he or she had access to for most of the year. If, for example, that individual had lived with a spouse who was earning income, he or she would probably have enjoyed a better lifestyle for most of the year because of that spouse's income. Therefore, changes in T_0 may be distorted.

9 All changes in income refer to median changes. However, the median changes in percentage may not correspond to those in dollars since all medians were calculated separately.

The median is the amount that splits the distribution of changes into halves. In other words, 50% of women in the sample had a loss higher than the median and 50% had a smaller loss or even a gain.

10 Similarly, the 10% change for men constitutes the median; thus, half the separated men in the sample realized gains greater than 10% and half registered smaller gains or even a loss. In fact, 39% of men experienced losses in AFI after separation. It is important to note, however, that when men did post losses, these were smaller than women's, while any gains registered by women were smaller than men's.

11 Finnie (1993) used low income cut-offs (LICO) to adjust family income, rather than the low income measures (LIM) used here. In fact, the study on which this article is based used both measures: when the LICOs were used, changes in AFI one, two or three years after separation were -22%, -17% and -13% for women, and 7%, 8% and 9% for men. (Changes are usually lower when the adjustment is made with LICOs.) The study's use of LICOs thus yielded results mostly lower than Finnie's. His study is not truly comparable, however, since it covers a different group (all separated persons, with or without children before the separation) and period, and uses different methodology.

12 In 1984, Statistics Canada completed a survey on the assets and debts of Canadians. It is now working on a new survey that should answer further questions on the subject.

13 Family incomes for women were lower than those for men even before separation took place. The gaps arose because some non-filers of both sexes could not be considered for this study.

14 In the study, because there were so few of them, female payers of support and

male recipients were excluded. Thus, recipients here are exclusively women and payers, exclusively men. Furthermore, the data for small groups are no longer significant when broken down into their smallest components (Galarneau, 1992). Tax files contain more payers than recipients for a number of reasons. Some recipients will not have filed returns because their incomes were too low. Also, payers had an incentive to declare support payments because they could deduct them from their income. On the contrary, recipients had less incentive to declare support payments.

15 Statistics Canada uses two concepts of "family." **Census families** consist of a husband and wife living in the same dwelling with or without never-married children, or a single parent with never-married children, or persons living alone. **Economic families** consist of two persons living in the same dwelling who are related by blood, marriage or adoption; thus, an economic family might be a man and a woman, their two children and an uncle and his child. The concept of economic family is much broader than that of census family, which is limited to the nuclear family.

■ References

- Department of Finance. *The New Child Support Package. Budget 1996*. Ottawa, 1996.
- Duncan, G.J. and S.D Hoffman. "A reconsideration of the economic consequences of marital dissolution." *Demography* 22, no.4 (November 1985): 485-497.
- Finnie, R. "Women, men, and the economic consequences of divorce: Evidence from Canadian longitudinal data." *Canadian Review of Sociology and Anthropology* 30, no. 2 (May 1993): 205-241.
- Furstenberg, F. and A. Cherlin. *Divided Families: What Happens to Children When Parents Part*. Cambridge, Mass.: Harvard University Press, 1991.
- Galarneau, D. "Alimony and child support." *Perspectives on Labour and Income* (Statistics Canada, Catalogue no. 75-001-XPE) 4, no.2 (Summer 1992): 8-21.
- Peterson, R. R. "A re-evaluation of the economic consequences of divorce." *American Sociological Review* 61 (June 1996): 528-536.
- Statistics Canada. *Family Income After Separation*. Income Analytic Report no. 5. Catalogue no. 13-588-MPB, no. 5. Ottawa, 1997a.
- . *Divorces, 1995*. Catalogue no. 84-213-XPB. Ottawa, 1997b.
- . "Introduction to the Longitudinal Administrative Databank (LAD)." Small Area and Administrative Data Division. Ottawa, 1997c.
- Steward, D.G. and F.M. Steel. *The Economic Consequences of Divorce on Families Owning a Marital Home*. Winnipeg: University of Manitoba, 1990.
- Weitzman, L.J. *The Divorce Revolution: The Unexpected Social and Economic Consequences for Women and Children in America*. New York: Free Press, 1985.

Appendix I – Methodology

This paper concentrates on previously legally married people, for several reasons. For example, a brief examination of separated individuals from married and common-law couples demonstrates that these are two distinct groups; common-law couples are significantly younger (49% were under 30 years in the year of separation, compared with 23% of married persons) and less likely to have children under 18 years (38% of individuals in common-law unions had children, compared with 61% of married persons).

The profile of separated individuals from legal marriages is closer to the usual idea of separation: an event that follows a long-term union. Among separated individuals who had children prior to the breakup, the proportion paying or receiving support payments increased substantially after separation for married persons, but remained stable for common-law individuals, as if it had not been a first separation. In addition, common-law relationships are often of shorter duration than marriages, and some of them lack stability.

Finally, only common-law couples in which both partners filed tax returns could be identified in the LAD. For married couples (matched by their SINs), it was possible to locate single taxfilers (and thus couples with only one income). On the other hand, common-law couples in the file were made up largely of two taxfilers (and most often represented two-income couples). Thus, their family income might seem higher than was actually the case, since few couples with only one taxfiler (and

thus single-income couples) were included in the LAD before 1992.

Identification of separated persons

Two algorithms were used to identify separated individuals. The first identified those who had no partner after separation, and the second, those who became part of a new couple the year after separation. Once the families were defined, a "family structure" code was assigned to each person. This made it possible to observe changes in family composition. Thus, changes observed from one year to the next can identify individuals who no longer had a partner, or more precisely, who moved from "married" family status to "single parent" or "single person." As well, individuals who became part of a new couple in the year following separation are identified by the change in their partner's SIN. Deceased or widowed individuals were not included for obvious reasons. Likewise, male recipients of support payments and female payers have been excluded.¹⁴

Persons could be selected only once; if someone separated again during the study period, only his or her family composition was affected by the change.

From 1987 to 1993, the total estimated number of separated persons was 2.72 million. Half of these were from married couples (1.36 million) and the rest from common-law unions. Of the 1.36 million previously married persons, 829,200 had children under 18 years prior to separation (in all, 963,000 children, or 1.2 per separated person); this group of separated persons is the subject of the article.

Adjusted family income

Several adjustments to the income variable were necessary to measure post-separation changes. First, the line "tax payable" on the Revenue Canada tax form was subtracted from the "total income" line for each family member, and support payments were subtracted from the payer's income. Family income, that is, *total income after tax* (and after support payments) for all family members, was converted to 1993 dollars. Then, an equivalence scale was used to take into account the number of people dependent on the family's total income and thus reduce the incomes of all separated individuals in a consistent fashion. This allows comparison of family income regardless of family size. This adjusted family income was calculated for the year prior to separation, the year of separation, and each subsequent year for which information was available.

The number of family members was accounted for with an equivalence scale based on low income measures (LIMs). According to the LIM scale, the income required to support a two-person family (consisting of two adults or one adult and one child) is 1.4 times greater than that for a person living alone. The equivalence factor increases by 0.3 for each additional child and by 0.4 for each extra adult. The LIM scale is better suited to the census family concept,¹⁵ which corresponds to the Small Area and Administrative Data Division's concept of family in the LAD. For that reason, income changes adjusted to this scale are used in most of this paper.

Appendix II – Legal considerations

In Canada, divorces are heard by federal courts while separations, legal or *de facto*, come under provincial jurisdiction. The country's first divorce law was enacted in 1968. In 1985, this law was amended, mainly to eliminate the adversarial nature of divorce proceedings and to reduce the waiting period for hearings. Over the next three years, the provinces followed suit and made similar amendments to their regulations on separation.

A word about support payments

There is a distinction between support payments for children and those for former spouses. Recently passed amendments to the *Divorce Act* will change the method by which child support is determined. These changes are to take effect May 1, 1997. They will give the rights of the child absolute priority and should reduce the often harmful economic effects of separation on children. The child support guidelines must meet the following objectives: serve as a guide to judges and parents and thus ensure that support orders are consistent and fair; ensure that simple,

unbiased calculations are used; ensure that support payments are made, and make the judicial process more efficient.

The method for determining child support payments will be changed from a "case by case" system to a mathematical formula based on the income of the paying parent, on the average costs of raising a child, and on the type of expenses involved (child care, medical expenses, schooling, special fixed costs for extracurricular activities, and so on). These rules will take into account the fact that expenses fluctuate with level of income and will make sure that the child benefits from the financial resources of both parents. More precisely, the amount of support will be a fixed fraction of the paying parent's income and will depend on the number of children, as well as the province or territory of residence of the support payer. This method of calculating child support payments is also used in New Zealand and in some American states.

The tax treatment of child support payments will also change; these will no longer be deductible from the payer's income, nor taxable for the recipient. However, existing support orders for children and spouses will not be affected by this measure; payments will continue to be deductible from the payer's income, and will remain taxable for the recipient. The courts will need to make the distinction between alimony and child support. In the past, one amount often covered both types of order.

The new rules for determining support payments will not apply to separations, legal or *de facto*, which are a provincial responsibility. However, the federal government does encourage the provinces to adopt similar guidelines in their jurisdictions. The Quebec government has drawn up its own rules for determining support payments to meet similar objectives; both provincial and federal legislation are expected to take effect at the same time (Department of Finance, 1996).

Computers in the workplace

Graham S. Lowe

Debates about the effects of information technology on work present many conflicting images. Critics envision an information age marked by mass unemployment and dehumanized work for those remaining in the workforce. Advocates counter that such technology offers the potential to create a post-industrial economy of skilled workers. These debates replay themes first articulated over two decades ago.¹ Two issues remain largely unresolved: the actual pace of change and the manner in which the move toward a service-based, increasingly technological economy has affected job content and security.

Discussions of new information technology (IT) – what most people associate with personal computers – typically assume that its rate of adoption and diffusion is rapid and accelerating, resulting in significant implications for workers, firms and the economy as a whole. Indeed, the technology seems to have changed Canadian industry considerably.²

Using two cycles of the General Social Survey (GSS), this article examines changes in workers' computer literacy between 1989 and 1994, as well as growth in computer use in the workplace. It also looks at the effects of technology on job content and security.

Statistics Canada's 1989 GSS provided a detailed review of workplace computerization since 1984, documenting mainly positive responses to questions about job content and job security (Lowe, 1991 and 1992). Its benchmark measures were repeated in the 1994 GSS, for which comparisons were made with 1989 (see *Data source*).

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Data source

The 1994 General Social Survey (Cycle 9) used a random sample of 11,500 individuals. The sample size of the 1989 GSS (Cycle 4) was 9,338. The data were weighted to the non-institutionalized population aged 15 and over in the 10 provinces. Both surveys were conducted by telephone and had high response rates: 80% in 1989 and 83% in 1994. GSS samples are sufficiently large and representative of adults living in the 10 provinces that estimates for the total adult population are possible. For reasons of sampling variability, questionnaire design, methodology, and so on, estimates from the two sources will differ. However, these differences are not large enough to alter the conclusions drawn.

The GSS asked respondents three questions regarding their ability to use a computer. Respondents were first asked, "Have you ever taken any courses on how to use computers?" Given that taking a computer course is neither a prerequisite for being able to use a computer nor an indicator of computer skills, a second question was posed in 1994: "Can you do anything on a computer (excluding video games [like] Nintendo), for example, word processing, or data entry?" In 1989, the question on ability to use computers included computer games: "Can you do anything on a computer, for example, play games, word processing or data entry?" Respondents who could use a computer were asked which of the following they had done in the 12 months prior to the survey: played games, engaged in word processing, data entry, record keeping, data analysis or programming, used an online data service

(asked in 1994 only), or anything else. Not asked was the location – home, workplace, educational institution, or some combination – for each activity.

The GSS measured workplace computer use with the following question, asked of respondents who were working at a job or business at the time of the survey: "Do you use computers such as mainframes, personal computers or word processors in your job?" This question captured data on information processing technology, particularly office automation, which has accounted for most workplace technological change since the 1980s (McMullen, Leckie and Caron, 1993). However, the GSS does not examine the use of new industrial technologies such as robots, computer-controlled machines, computer-assisted manufacturing, automated materials handling systems, point-of-sale terminals, and mobile special-use computers used by a range of workers such as utility meter checkers, couriers, travelling sales representatives, and so on.

The survey adopted a broader focus when assessing the effect of technological change in the preceding five years. Employed respondents were asked, "In the last five years, how much has your work been affected by the introduction of computers or automated technology? Would you say...greatly? somewhat? hardly? not at all?" Those who answered "greatly" or "somewhat" were then asked a series of questions designed to determine the perceived effect of computers or automated technology on job skills, job security, and intrinsic interest in the last five years.

Computer literacy of workers and students

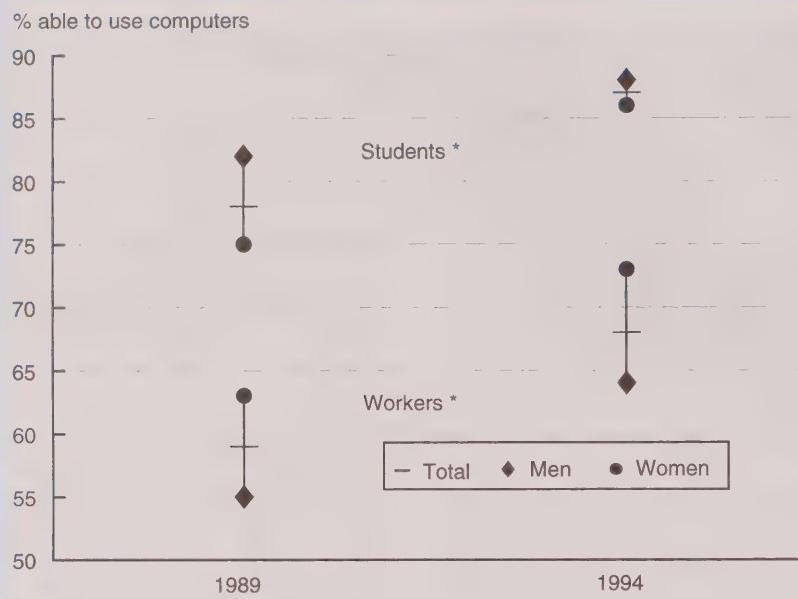
According to survey respondents, computer literacy among the employed³ increased from 59% to 68% between 1989 and 1994 (Chart A). Comparable figures for students are

78% and 87%.⁴ This increase is evident for both sexes.

Most types of computer use have been increasing among workers. Specifically, the use of word processing, data entry, record keeping, and data analysis rose during the period, while

Chart A

Computer literacy has increased among workers and students.



Source: General Social Survey

* Respondents were classified according to their main activity in the 12 months prior to the survey.

among 15 to 19 year-old workers and most among those over age 45.

Workplace computerization shows considerable provincial variation. Alberta, British Columbia and Ontario had levels above the national average and experienced the largest gains in such activity between 1989 and 1994. Two provinces with low levels of computer literacy, Newfoundland and New Brunswick, also had low levels of computer use on the job.

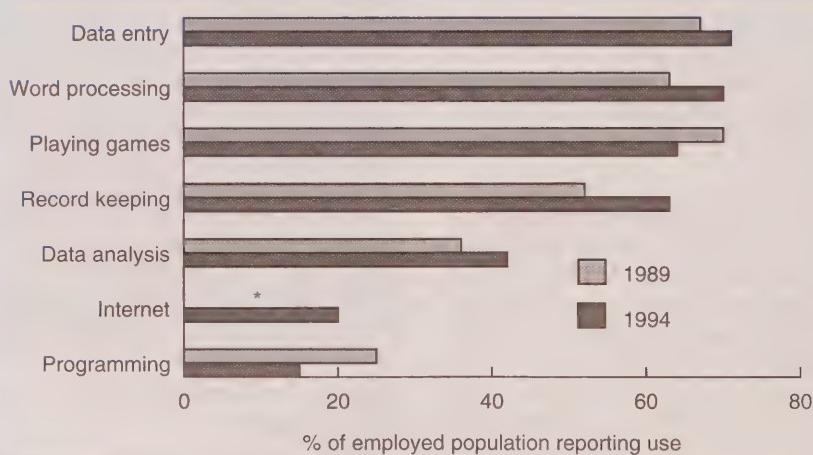
The IT revolution seems to have penetrated further into workplaces than into homes or elementary and secondary schools. Between 1986 and 1996, home computer ownership increased three-fold, from 10% to 32% of all households (Statistics Canada, 1997). Yet the ratio of students per computer remains poor at the elementary and secondary levels, despite the relatively high computer literacy of 15 to 19 year-olds (Oderkirk, 1996). Similar data for postsecondary institutions are unavailable, although it

programming and playing computer games have both declined (Chart B). One in five workers reported having used the Internet in 1994 (not documented in the 1989 GSS).

Computer use on the job

In 1994, 48% of employed persons (6.2 million) used a computer (personal computer, mainframe or word processor) at work, a marked increase from 35% in 1989 (Table 1). Women were more likely than men to use computers on the job in both years. Despite their high levels of computer literacy, young workers (15 to 19 year-olds) were the least likely of any age group to do so (16%), perhaps because many of those who were employed worked in lower-level service jobs. On-the-job computer use was highest in the 25-to-34 and 35-to-44 age groups, especially among women (60% in both age groups). Workplace computer use over the five years increased in all age groups – least

Chart B
Programming and playing games have lost ground to word processing and data entry.



Source: General Social Survey

Note: Chart refers to those whose main activity in the 12 months prior to the survey was "employed."

* Use of Internet and other online data services was not asked in the 1989 GSS.

Table 1
Computer use on the job, by sex, age and province

	Use of computers on the job			
	1989		1994	
	Number of users	% of employed	Number of users	% of employed
	'000	%	'000	%
Both sexes				
All age groups	4,212	35	6,202	48
15-19	101	13	109	16
20-24	407	30	528	41
25-34	1,465	41	1,857	53
35-44	1,318	42	1,975	55
45-54	652	32	1,256	48
55-64	261	23	420	38
65 +	--	--	57	24
Men				
All age groups	2,152	32	3,188	44
15-19	52	13	58	16
20-24	167	24	259	39
25-34	734	37	933	48
35-44	699	41	963	50
45-54	345	30	684	46
55-64	152	22	253	39
65 +	--	--	38	24
Women				
All age groups	2,060	38	3,014	52
15-19	49	13	51	16
20-24	240	36	269	44
25-34	731	46	924	59
35-44	618	44	1,013	60
45-54	306	35	572	50
55-64	110	25	167	38
65 +	--	--	--	--
Canada	4,212	35	6,202	48
Newfoundland	48	29	82	41
Prince Edward Island	--	--	--	--
Nova Scotia	132	34	175	45
New Brunswick	85	28	111	37
Quebec	940	32	1,294	42
Ontario	1,785	37	2,658	52
Manitoba	163	33	209	41
Saskatchewan	107	25	176	42
Alberta	426	37	664	50
British Columbia	515	37	815	51

Source: General Social Survey, 1989 and 1994

Note: Table includes respondents employed at the time of the survey.

appears that universities have been closer to the leading edge of IT (Lowe and Krahn, 1989).

Considering the possibilities for decentralized, flexible work arrange-

ments such as "teleworking," Canada has made slow progress. For example, in 1995 about one million employees (9% of the total) worked some or all of their regularly scheduled hours at

home. Only 22% in this group were provided with a computer by their employer and 14% were supplied a modem (Akyeampong, 1997). And the fact that in 1996 only 7% of households used the Internet (Statistics Canada, 1997) tempers some of the bold claims being made about the information super-highway.

Computer literacy gap

The gap between computer literacy and actual use of computers on the job persists. In 1989, 59% of workers could use a computer, yet only 35% did so in their job. By 1994, while 70% of the employed were able to use a computer, only 48% did so at work (Chart C). This gap was smallest for those with a university education (a difference of 12 and 14 percentage points for holders of graduate and undergraduate degrees, respectively) and greatest for workers whose highest level of education was a high school diploma (27 percentage points).

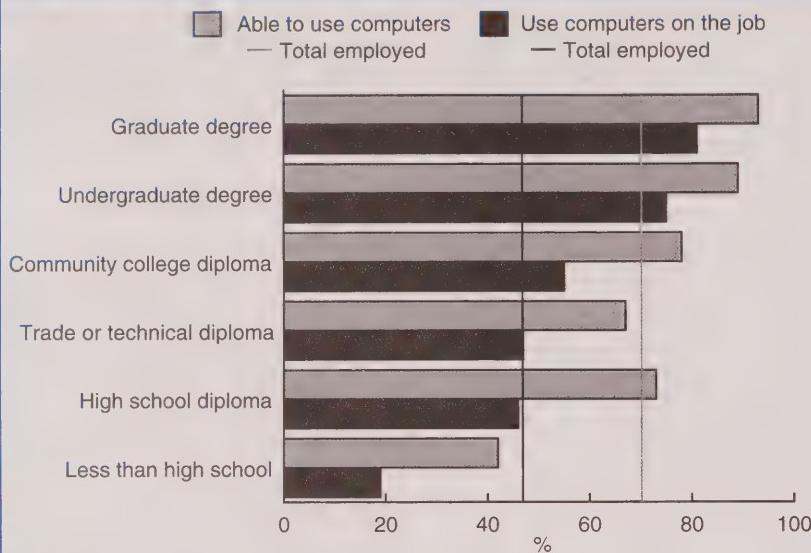
Occupation and industry patterns

Four occupational groups recorded well-above-average computer use (Table 2). Almost all workers in natural sciences, engineering and mathematics occupations reported using computers in 1994. Some 76% of managerial and administrative employees did so, up from 52% in 1989. Use was also high in clerical and teaching occupations. Services, primary occupations, and construction and transportation all recorded low use of computers.

As in 1989, business services and public administration had high levels of computer use in 1994. About half of the employees in distributive services and in community services used computers in their jobs. Construction and personal services recorded relatively low levels of use.

Changes in the occupational and industrial distribution of employment affect patterns of use. For example,

Chart C
Workplace computer use increases with education.



Source: General Social Survey, 1994

Note: Chart refers to respondents employed at the time of the survey.

although natural sciences, engineering and mathematics jobs had the highest level (93%), the number of users increased by only 4,000 between 1989 and 1994 – a negligible 1% growth rate. By contrast, manufacturing and processing occupations gained around 260,000 new computer users, even though the 1994 percentage was only 30%. This occupation registered an impressive 132% jump in computer users over five years, compared with 47% for all occupations. Similarly, computer use among sales workers, which rose from about one-third to one-half, resulted in an additional quarter of a million users. The distribution of computer users by occupation and industry also changed slightly between 1989 and 1994.

Time spent at the screen

Average weekly hours of computer use on the job increased from 16 in 1989 to 18 in 1994 (Table 3). As in 1989, natural sciences, engineering and

mathematics occupations, clerical occupations and artistic, literary and recreational occupations recorded relatively long hours in 1994 (25, 23 and 21, respectively). In contrast, primary and teaching occupations reported only 5 and 7 hours.

Weekly hours of computer use vary less by industry than by occupation. In 1994, employees in business services, finance, and distributive services each reported just over 20 hours weekly of computer use. Community services had the lowest average (12 hours).

The diffusion of automated technology

In 1994, 34% of the employed reported that their work had been greatly affected by the introduction of computers or automated technology in the previous five years, up from 29% in 1989 (Table 4). Results for the workforce as a whole differ little by sex.

In managerial and professional occupations, technological change had greatly affected 46% of employees during the 1989-to-1994 period, an increase from 38% during the 1984-to-1989 period. Comparable figures for clerical, sales and service occupations are 34% and 29%. Just 20% of workers in manual occupations had been greatly affected during the second period, up from 16%. One group reported high percentages in both five-year periods: by 1994, 53% of men in managerial and professional occupations had been greatly affected by such change (compared with 45% earlier).

The effect of IT on job content and security

Of those workers who believed their job had been greatly or somewhat affected by the introduction of computers or automated technology in the five years prior to the GSS, 68% said their required job skills had increased by 1989; this rose slightly to 71% in 1994. In 1989, 70% reported no effect on job security, though this figure declined somewhat to 67% in 1994. In both years, just over 60% said that work had become more interesting as a result of the introduction of computers or automated technology.

In 1989 and 1994, only 2% of workers affected by technological change claimed that this had reduced the skill requirements of their job. Similarly, just 4% in both years stated that technological change had made their job less interesting. However, 19% of workers affected by technological change believed in 1994 that their job security had decreased as a result, up from 11% in 1989.⁵ This is a very important change in the general pattern over the decade considered. This perception was likely influenced by the context of technological change in the 1990s: public sector layoffs, corporate downsizing, high unemployment, and growing awareness of economic globalization.

Table 2
Computer use on the job by occupation and industry

	Use of computers on the job						Change in computer users on the job	
	1989			1994			Absolute increase, 1989-1994	% increase, 1989-1994
	Number of users	% of employed	Distribu- tion	Number of users	% of employed	Distribu- tion		
	'000	%	%	'000	%	%	'000	%
Occupation								
All occupations	4,212	35	100	6,202	48	100	1,990	47
Managerial/administrative	995	52	24	1,585	76	26	590	59
Natural sciences/engineering/ mathematics	478	79	11	482	93	8	4	1
Social sciences	129	38	3	205	63	3	76	59
Teaching	308	45	7	488	70	8	179	58
Medicine/health	141	22	3	245	32	4	104	74
Artistic/literary/recreational	98	37	2	160	54	3	62	63
Clerical	1,088	55	26	1,275	70	21	187	17
Sales	354	34	8	609	51	10	255	72
Service	138	10	3	230	15	4	92	67
Primary	45	11	1	93	18	2	48	106
Manufacturing/processing	197	14	5	459	30	7	261	132
Construction/transportation	113	12	3	216	18	3	102	91
Other occupations	88	20	2	127	29	2	38	43
Not stated	--	--	--	--	--	--	--	--
Industry								
All industries	4,212	35	100	6,202	48	100	1,990	47
Primary	102	21	2	202	31	3	100	99
Manufacturing	653	31	16	801	41	13	148	23
Construction	61	11	1	138	20	2	78	128
Distributive services *	605	42	14	818	53	13	214	35
Retail trade	399	24	9	640	39	10	242	61
Personal services	80	9	2	381	24	6	302	378
Business services/finance	953	60	23	1,351	82	22	398	42
Community services **	748	34	18	1,191	51	19	443	59
Public administration	549	50	13	649	71	10	100	18
Not stated	63	40	2	--	--	--	--	--

Source: General Social Survey, 1989 and 1994

Note: Table includes respondents employed at the time of the survey.

* Includes transportation and wholesale trade.

** Includes education, health and social services.

Discussion

According to the General Social Survey, computer literacy in the workforce increased between 1989 and 1994, and on-the-job computer use grew to about half of all workers. Paradoxically, despite being the most computer literate, young workers reported lower levels of workplace com-

puter use than did other age groups. Generally, the reported level of computer skills in the workforce has exceeded the recorded use.

The pace of computerization and automation increased from 1984 to 1989 and from 1989 to 1994. But workers in both study periods who experienced technological change in their

jobs tended to view it in positive terms: higher skill requirements, more interesting work, and less apparent threat to job security than might be expected.

These latter findings are corroborated by various case studies (Long, 1993, for instance). While aggregate Canadian trends mirror those in

Table 3
Average weekly hours of computer use on the job by occupation and industry

	Average weekly hours of use	
	1989	1994
Occupation		
All occupations	16	18
Managerial/administrative	15	19
Natural sciences/engineering/mathematics	23	25
Social sciences	8	14
Teaching	8	7
Medicine/health	13	10
Artistic/literary/recreational	18	21
Clerical	21	23
Sales	14	17
Service	12	13
Primary	8	5
Manufacturing/processing	13	14
Construction/transportation	12	15
Other occupations	16	16
Industry		
All industries	16	18
Primary	11	13
Manufacturing	17	18
Construction	14	13
Distributive services *	18	21
Retail trade	14	17
Personal services	14	17
Business services/finance	19	22
Community services **	14	12
Public administration	15	18

Source: General Social Survey, 1989 and 1994

Note: Table includes respondents employed at the time of the survey. Employed persons who did not report hours of computer use are excluded.

* Includes transportation and wholesale trade.

** Includes education, health and social services.

Britain, the absence of comparable American data makes it difficult to draw parallels with that country (Gallie and White, 1993). However, one U.S. observation that automation has contributed to skill reductions among clerical workers raises the possibility that different methods for measuring skill may influence findings (Cappelli, 1993).⁶

The diffusion of information technology in Canadian workplaces is contributing to the increasing labour

market polarization documented since the early 1980s (Economic Council of Canada, 1991). The heaviest users of information technology are professionals, such as scientists, engineers and managers – the so-called “knowledge workers” – as well as clerical workers.

So far, few Canadians attribute past or expected job loss to technological change. This perception may tap only direct effects of technological change, but even assuming some

unmeasured, indirect effects, predictions of massive job losses by some critics may be somewhat overstated.

Acknowledgements

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Notes

1 See, for example, Braverman (1974), Bell (1973), Rifkin (1995), Noble (1995) or Zuboff (1988). Drucker's knowledge workers (1993) or Reich's (1991) symbolic analysts are portrayed as the new elite of the information age.

2 Technology's effect on the overall quality of work life depends on how fully it is integrated: work reorganization around new technologies is less common, and more difficult to implement, than technological change *per se*. See, for example, Betcherman et al (1994); McMullen, Leckie and Caron (1993), and Baldwin and Diverty (1995). See also Long's 1993 study of 114 large Canadian private sector firms in all major industrial sectors, 1990 to 1991. For a summary of this, see Kling and Dunlop (1993).

3 In this section of the article, respondents are classified according to their main activity in the 12 months prior to the survey. Elsewhere, their status at the time of the survey applies.

4 In general, persons under age 25 are far more likely to be able to use computers. Furthermore, the GSS asked for self-assessment of skills. Young people are generally more comfortable using technology, whether or not their skills are appreciably greater than others'.

5 Any respondent who reported losing a job in the 1984-to-1989 (Cycle 4) or 1989-to-1994 (Cycle 9) period was asked why this had happened. So few cited the introduction of automation or new technology that reliable estimates cannot be provided. It is possible, however, that

Table 4

Effect of introduction of computers or automated technology on work in the last 5 years, by occupation and sex

	Total employed population	Work affected by introduction of computers in last 5 years				
		Greatly	Somewhat	Hardly	Not at all	Not stated *
	'000	%	%	%	%	%
All occupations (1989)						
Both sexes	12,155	100	29	15	14	41
Men	6,726	100	29	17	15	39
Women	5,428	100	29	13	14	44
All occupations (1994)						
Both sexes	13,035	100	34	17	11	36
Men	7,193	100	34	17	11	36
Women	5,841	100	35	17	10	36
Managerial/professional (1989)						
Both sexes	4,442	100	38	18	15	29
Men	2,450	100	45	19	13	23
Women	1,992	100	29	16	17	37
Managerial/professional (1994)						
Both sexes	4,674	100	46	20	10	22
Men	2,315	100	53	20	8	18
Women	2,359	100	39	21	12	26
Clerical/sales/service (1989)						
Both sexes	4,401	100	29	13	13	44
Men	1,526	100	26	16	16	42
Women	2,876	100	31	11	12	45
Clerical/sales/service (1994)						
Both sexes	4,591	100	34	14	10	39
Men	1,710	100	32	15	12	38
Women	2,881	100	36	14	9	40
Manual (1989)						
Both sexes	3,217	100	16	15	15	53
Men	2,691	100	16	16	16	51
Women	526	100	16	9	10	64
Manual (1994)						
Both sexes	3,677	100	20	16	12	49
Men	3,104	100	21	17	13	48
Women	573	100	17	13	9	59

Source: General Social Survey, 1989 and 1994.

Note: Table includes respondents employed at the time of the survey.

* This category includes "don't know" and "not stated" in 1994.

other commonly cited reasons for job loss (for example, a shortage of work, staff reductions) were indirectly influenced by technological change, and respondents may not have been aware of this. (See Lowe [1992] for a discussion about these Cycle 4 findings.)

6 Unlike both the GSS and the British survey, the Cappelli study used evaluation scores based on surveys by Hay Associates, rather than workers' self-assessments of their skill requirements.

■ References

- Akyeampong, E.B. "Work arrangements: 1995 overview." *Perspectives on Labour and Income* (Statistics Canada, Catalogue no. 75-001-XPE) 9, no. 1 (Spring 1997): 48-52.
- Baldwin, J.R. and B. Diverty. *Advanced Technology Use in Canadian Manufacturing Establishments*. Catalogue no. 11F0019MPE no. 85. Ottawa: Statistics Canada, 1995.
- Bell, D. *The Coming of Post-Industrial Society: A Venture in Social Forecasting*. New York: Basic Books, 1973.
- Betcherman, G. et al. *The Canadian Workplace in Transition*. Kingston: Industrial Relations Centre, Queen's University, 1994.
- Braverman, H. *Labor and Monopoly Capital: The Degradation of Work in the Twentieth Century*. New York: Monthly Review Press, 1974.

- Cappelli, P. "Are skill requirements rising? Evidence from production and clerical jobs." *Industrial and Labor Relations Review* 46, no. 3 (April 1993): 515-530.
- Drucker, P.F. *Post-Capitalist Society*. New York: HarperBusiness, 1993.
- Economic Council of Canada. *Employment in the Service Economy*. A research report prepared for the Council by G. Betcherman et al. Ottawa: Economic Council of Canada, 1991.
- Gallie, D. and M. White. *Employee Commitment and the Skills Revolution*. London: Policy Studies Institute, 1993.
- Kling, R. and C. Dunlop. "Controversies about computerization and the character of white collar worklife." *The Information Society* 9, no. 1 (January 1993): 1-29.
- Long, R. "The impact of new office information technology on job quality of female and male employees." *Human Relations* 46, no. 8 (1993): 939-62.
- Lowe, G.S. *Human Resource Challenges of Education, Computers and Retirement*. Catalogue no. 11-612-XPE, no. 7. Ottawa: Statistics Canada, 1992.
- . "Computers in the workplace." *Perspectives on Labour and Income* (Statistics Canada, Catalogue no. 75-001-XPE) 3, no. 2 (Summer 1991): 38-50.
- Lowe, G.S. and H. Krahn. "Computer skills and use among high school and university graduates." *Canadian Public Policy* 15, no. 2 (June 1989): 175-188.
- McMullen, K., N. Leckie and C. Caron. *Innovation at Work: The Working with Technology Survey, 1980-91*. Kingston: Industrial Relations Centre, Queen's University, 1993.
- Noble, D.F. *Progress without People: New Technology, Unemployment, and the Message of Resistance*. Toronto: Between the Lines, 1995.
- Oderkirk, J. "Computer literacy – a growing requirement." *Education Quarterly Review* (Statistics Canada, Catalogue no. 81-003-XPB) 3, no. 3 (Autumn 1996): 9-29.
- Reich, R.B. *The Work of Nations: Preparing Ourselves for 21st-Century Capitalism*. New York: Alfred A. Knopf, 1991.
- Rifkin, J. *The End of Work: The Decline of the Global Labor Force and the Dawn of the Post-Market Era*. New York: G.P. Putnam's Sons, 1995.
- Statistics Canada. *Household Facilities by Income and Other Characteristics, 1996*. Catalogue no. 13-218-XPB. Ottawa, 1997.
- . "Computer use in the workplace." Catalogue no. 12F0052XPE. Ottawa, 1995.
- Zuboff, S. *In the Age of the Smart Machine: The Future of Work and Power*. New York: Basic Books, 1988.

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After high school...

Jeffrey Frank

Changing labour market conditions have affected workers of all ages and education levels, but particularly young people. The job market in Canada has become increasingly competitive. Finding and retaining satisfactory work requires not just a basic education, but also the right combination of training, skills, initiative and good work habits. High school graduation by itself no longer guarantees a job; further education or training beyond high school offers definite advantages and is usually required today for most better jobs.

This article, which previews the findings of the 1995 School Leavers Follow-up Survey, provides information about the education, training and labour market experiences of young people during the first few years after leaving or graduating from high school. A comprehensive report on young people's school-work transitions based on both the initial and the follow-up survey (see *About the surveys*) is expected later this year.

High school leaver rates lower in 1995

According to the 1991 School Leavers Survey, 18% of 20 year-olds had left high school before graduation. (A substantial proportion of 18 and 19 year-olds were still in high school.) Data from the 1995 School Leavers Follow-up Survey indicate that by the time these same people were 24, their high school leaver rate had fallen to 15% (Table 1). Finishing high school is a longer process for some than for others.

Adapted from After High School, The First Years: The First Report of the School Leavers Follow-up Survey, 1995. Jeffrey Frank is with the Centre for Education Statistics. He can be reached at (613) 951-1504, or franjef@statcan.ca.

About the surveys

The primary objectives of the 1991 School Leavers Survey (SLS) were to establish high school leaving rates and to compare secondary school students who had successfully completed high school (**graduates**) with those who were still attending (**continuers**) and those who had left school before graduating (**leavers**). The SLS was conducted between April and June 1991. The 1995 School Leavers Follow-up Survey (SLF), conducted between September and December 1995, gathered information on school-work transitions of these young adults by focusing on education and work activities beyond high school. Human Resources Development Canada commissioned Statistics Canada to conduct both surveys.

The SLS target population consisted of youths aged 18 to 20 (as of April 1, 1991) from the 10 provinces. They were contacted four years later for the SLF, by which time they would likely have had one or more jobs. In addition, most continuers in 1991 would be graduates or leavers by 1995, allowing a more in-depth labour market analysis.

The SLS sampling frame was formed from five years (1986 to 1990) of Family Allowance (FA) files. The FA files were believed to provide the most complete listing of young persons under 15 in Canada available at the time of the survey. These files provided indicators used to create a derived variable, "payment status," that could identify potential leavers — youths for whom FA payments had stopped because they had left the household or had become employed and would thus be at higher risk of leaving school. The frame was stratified using province of residence, age and payment status (the latter to help ensure an adequate number of leavers for analysis).

In 1991, 63% of youths aged 18 to 20 were high school graduates, 16% were school leavers, and 21% were high school continuers. By 1995, 85% of these same young people had

The SLS sample consisted of 18,000 individuals from the 10 provinces who were selected using the stratified design described above. The sample was selected to provide national and provincial leaver rates for 20 year-olds with a maximum coefficient of variation (CV) no greater than 16.5%, and to allow estimation of some characteristics for continuers, leavers and graduates, each considered separately, with a CV no greater than 16.5%. (This level of relative precision was also obtained for other estimates. For some estimates, however, CVs fall into the 16.6% to 33.3% range. Such estimates are reliable enough for some purposes, but should be used with caution. Those with CVs above 33.3% are not published.) The SLF sample consisted of individuals who had responded to the SLS (with very few exceptions, noted below).

Both surveys were conducted by telephone using a computer-assisted telephone interviewing system. SLS respondents were asked to provide contact information for a follow-up. Interviewers confirmed certain respondent information from the SLS before beginning the SLF interview.

Of the 18,000 individuals in the SLS sample, 9,460 provided completed interviews. Of these, 11 preferred not to participate in further surveys, and 18 participated in a pre-test for the SLF. These individuals were excluded from the SLF, leaving a sample of 9,431. Of these, 6,284 responded (including agreement for data sharing). In both surveys, an adjustment for non-response was included in the weighting procedures.

graduated and 14% were school leavers. In absolute numbers, over 160,000 youths aged 22 to 24 in 1995 had left high school without completing their diploma. Less than 1% of

those aged 22 to 24 were attending high school in 1995.¹

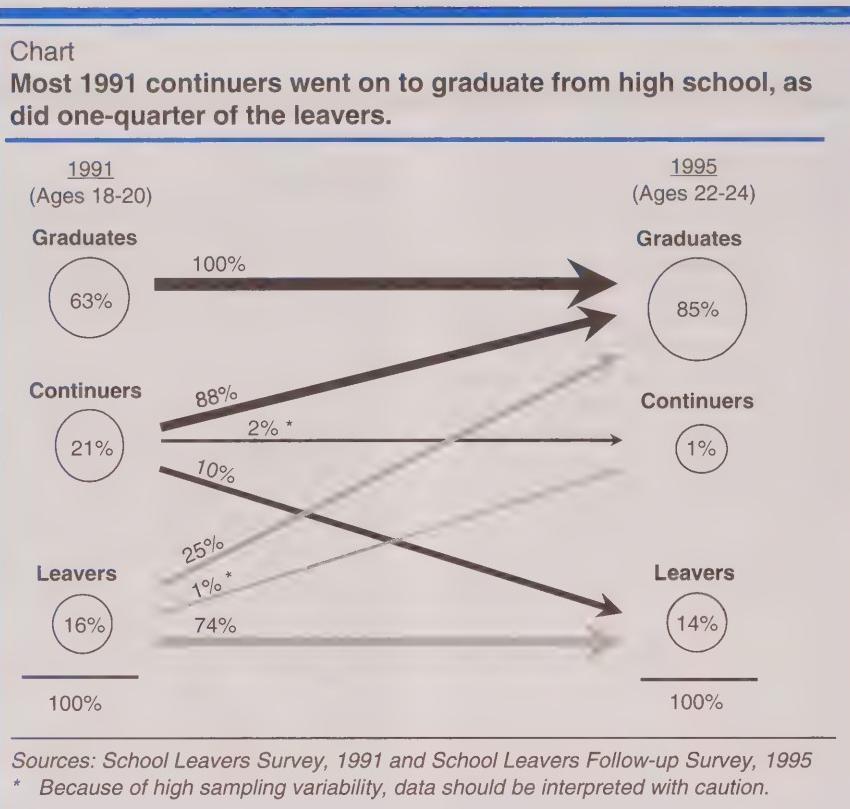
Among high school leavers in 1991, 25% had returned to high school and obtained their diploma by 1995. In addition, 88% of those who were continuers in 1991 had graduated by 1995 (Chart).

Young women more likely to finish school

Among women aged 22 to 24, 89% had completed high school by 1995, while 10% were high school leavers. In comparison, 81% of young men had graduated by 1995 and 18% were leavers. Men accounted for nearly two-thirds of those who had left high school by then. This pattern – where smaller proportions of men than women were high school graduates – was evident in every province (Table 2).

Graduates pursue further education

Four out of five youths who were high school graduates in 1995 went on to postsecondary education or training toward a certificate, diploma or degree (Table 3). In contrast, just one in four high school leavers had done so. Some leavers may have decided not to enrol for a variety of reasons (for instance, lack of money,



family responsibilities, time constraints), while many others may have been unable to because they lacked required credentials.

Among high school graduates, a larger proportion of women than men had continued their education (83% versus 77%). Among leavers, how-

ever, men were somewhat more likely than women to have taken further education or training.

Some 42% of high school graduates reported university as their highest level of further education toward a certificate, diploma or degree. Women were somewhat more likely than men to have done so (Table 4).

Three in ten high school graduates reported education or training at a college or CEGEP as their highest level of additional schooling. Proportions for men and women were similar.

Just 7% of graduates enrolled in a trade or vocational school, or a registered apprenticeship program for their highest level of further training. Male graduates were slightly more likely than their female counterparts to have made this choice.

Finally, as their highest level of postsecondary education to date, some 2% of high school graduates had worked toward certification in a program offered by a private business

Table 1
High school leaver rates for those aged 20 in 1991 and 24 in 1995

	1991 (Aged 20)	1995 (Aged 24)	%
Canada	18	15	
Newfoundland	24	19	
Prince Edward Island	25	21	
Nova Scotia	22	17	
New Brunswick	20	16	
Quebec	22	19	
Ontario	17	14	
Manitoba	19	14	
Saskatchewan	16	11	
Alberta	14	11	
British Columbia	16	13	

Sources: School Leavers Survey, 1991; School Leavers Follow-up Survey, 1995

Table 2
High school status of youths aged 22 to 24, by sex and province

	High school graduates			High school leavers		
	Both sexes	Men	Women	Both sexes	Men	Women
%						
Canada	85	81	89	14	18	10
Newfoundland	79	76	82	20	22	17
Prince Edward Island	80	75	85	19	23	15
Nova Scotia	85	81	88	15	19	12*
New Brunswick	86	80	91	12	17	8*
Quebec	81	76	86	18	21	14
Ontario	88	84	92	12	16	7
Manitoba	84	78	91	16	22	9*
Saskatchewan	87	84	91	12	16	9*
Alberta	86	81	91	14	19	8
British Columbia	86	85	88	14	15	12

Source: School Leavers Follow-up Survey, 1995

* Because of high sampling variability, data should be interpreted with caution.

but high school diploma helps

High school graduates with some further education or training had the lowest unemployment rates: 11% for men and 10% for women. Unemployment rates for graduates without further education or training were somewhat higher.

Among school leavers, unemployment rates were higher and differences between the sexes more marked. Fully 30% of young women were unemployed, compared with 17% of men. Leaving high school before graduation appears to have especially serious consequences for young women.

Full-time work common

In the week before the survey, high school graduates with no further education or training were most likely to have been working full time (64%). In comparison, 57% of high school leavers and 53% of high school graduates with further education or training were working full time (Table 5).

The gap was greater among high school leavers: 91% of men versus 63% of women were labour force participants. Family responsibilities were likely an even greater factor for women's participation rate in this case (Gilbert and Orok, 1993).

or commercial school, for example, or by a professional association (such as accounting, banking or insurance).

Some leavers take further training

Among high school leavers in 1995, 12% reported, as their highest level of formal education or training, attendance at a trade or vocational school, or registration in an apprenticeship program. Further education of this type was most common among young men who had left high school. In addition, under 10% of high school leavers reported further education or training at a college or CEGEP as their highest schooling since leaving.

Women's participation lower than men's...

Among high school graduates who had taken further education or training, labour force participation was about the same for men and women (84%). For graduates without further education or training, however, participation was much higher among men (92%) than among women (77%) (Table 5). Family responsibilities may have kept some of these young women out of the labour force.

Table 3
Proportion of youths aged 22 to 24 with further education or training, by high school status, sex and province

	High school graduates			High school leavers		
	Both sexes	Men	Women	Both sexes	Men	Women
%						
Canada	80	77	83	24	26	20*
Newfoundland	77	76	78	38*	43*	32*
Prince Edward Island	77	69	83	28*	30*	‡
Nova Scotia	78	76	82	23*	24*	‡
New Brunswick	67	65	69	14*	16*	‡
Quebec	83	75	90	17*	‡	‡
Ontario	83	82	84	27*	31*	‡
Manitoba	71	67	73	15*	20*	3*
Saskatchewan	81	78	84	‡	‡	‡
Alberta	75	75	75	28*	33*	‡
British Columbia	75	71	78	35*	42*	‡

Source: School Leavers Follow-up Survey, 1995

Note: Table refers to further education or training toward a certificate, diploma or degree beyond high school.

* Because of high sampling variability, data should be interpreted with caution.

‡ Data not reliable enough to publish.

Table 4
Highest level of further education or training for youths aged 22 to 24, by high school status and sex

	High school graduates			High school leavers		
	Both sexes	Men	Women	Both sexes	Men	Women
%						
Total	100	100	100	100	100	100
University	42	39	45	†	†	†
College/CEGEP **	29	28	30	8 *	8 *	†
Trade/vocational or registered apprenticeship **	7	8	5	12	15 *	†
Other education or training †	2	2 *	3 *	†	†	†
Total with further education or training	80	77	83	24	26	20 *
No further education or training	20	23	17	76	74	80

Source: School Leavers Follow-up Survey, 1995

Notes: Table refers to further education or training toward a certificate, diploma or degree beyond high school. People are classified according to their highest level of education.

Because of rounding, totals may not add to 100%.

* Because of high sampling variability, data should be interpreted with caution.

** College/CEGEP and trade/vocational or registered apprenticeship sometimes overlap. Respondents may have mentioned either category for certain programs.

† Includes further education or training toward private business school or commercial school diplomas or certificates; and diplomas, certificates or licences from professional associations (for example, accounting, banking and insurance).

‡ Data not reliable enough to publish.

The lower rate of full-time work among graduates with further education or training is not surprising, as many of these graduates were involved in education or training activities at the time of the survey. In fact, 15% of this group reported only education or training activities in the week before the survey, and another 24% were combining various forms of school and work.

As was the case in the rest of the labour force, part-time work was more common among women than men. Among graduates with further education or training, 24% of women reported having part-time jobs as did 20% of men. Again, this was not unexpected, as they were most likely to be involved with their studies in the week before the survey.

Among high school graduates with no further education or training, 13% of women and 7% of men were working part time. Similarly, 11% of female and 5% of male high school leavers had part-time jobs.

Education and training important to many youths

Young people are keenly aware of the importance of education and training in the current labour market. In 1995, about 8 out of 10 youths intended to take further education, training or instruction² over the next five years. High school graduates who had already worked toward a certificate, diploma or degree were most likely to consider further schooling (88%) (Table 6). This was not surprising, since this group included those already enrolled in such programs.

In comparison, 76% of graduates with no further education or training and 72% of high school leavers planned to continue their studies sometime over the next five years. Further schooling did not figure into the futures of 10% of high school graduates who had already taken some further education or training, 19% of those who had not done so, or 23% of those without a high school diploma.

What will they be doing in 2000?

The young people surveyed were also asked what they expected their main activities to be in five years. (Multiple responses were allowed.) The vast majority (92% of high school graduates with further education or training, 84% of those without, and 84% of high school leavers) expected to be working at a job or business. Among graduates as well as leavers, larger proportions of men than women expected to be working five years later (Table 6).

Proportionately more high school leavers (17%) and graduates without further education or training (16%) reported going to school as one of their main future activities, compared with 12% of graduates with further education or training. Young women who had left high school were more likely than their male counterparts to foresee a return to school in five years. Generally, few leavers or graduates, with or without further education or training, saw themselves both working and going to school.

Another commonly reported future activity was handling family or household responsibilities. Not surprisingly, women were much more likely than men to see this as a main activity in five years' time. Young women who had left high school without graduating (39%) and those who had graduated but not gone further (37%) were especially likely to mention this activity, compared with

Table 5

Labour force indicators (in the week before the survey) for youths aged 22 to 24, by high school status and sex

	High school graduates (with further education or training)			High school graduates (no further education or training)			High school leavers		
	Both sexes	Men	Women	Both sexes	Men	Women	Both sexes	Men	Women
%									
Labour force participation rate	84.1	84.4	83.9	85.4	92.0	77.0	80.7	90.6	62.9
Unemployment rate	10.8	11.3	10.4	12.9	14.1 *	11.2 *	20.9	17.3	30.2
Full-time work	52.8	54.8	51.2	64.4	71.9	54.9	56.6	69.8	32.7
Part-time work	22.0	20.1	23.7	9.6	7.1	12.8	7.2	5.1	11.1

Source: School Leavers Follow-up Survey, 1995

Note: Table refers to further education or training toward a certificate, diploma or degree beyond high school.

* Because of high sampling variability, data should be interpreted with caution.

Table 6

Plans and expectations of youths aged 22 to 24, by high school status and sex

	High school graduates (with further education or training)			High school graduates (no further education or training)			High school leavers		
	Both sexes	Men	Women	Both sexes	Men	Women	Both sexes	Men	Women
%									
Future education (over next five years)									
Planning to take further education, training or other instruction **	88	88	87	76	75	79	72	73	70
No plans for further education or training	10	10	10	19	20	18	23	23	22
Don't know	2 *	2 *	3 *	4 *	5 *	3 *	5 *	4 *	7 *
Total	100	100	100	100	100	100	100	100	100
Expected main activities † (in five years)									
Working	92	95	90	84	90	77	84	88	75
Going to school	12	10	12	16	14	19	17	14 *	22
Working and going to school	7	7	8	9	7 *	12 *	10 *	9	11 *
Family responsibilities	18	11	24	26	17	37	28	21	39
Doing something else	1 *	2 *	1 *	2 *	‡	‡	‡	‡	‡

Source: School Leavers Follow-up Survey, 1995

Notes: Table refers to further education or training toward a certificate, diploma or degree beyond high school.

Because of rounding, totals may not add to 100%.

* Because of high sampling variability, data should be interpreted with caution.

** The question about future education plans asked, "Do you plan to take any further education or training such as courses, workshops, seminars and tutorials?"

† Multiple responses were allowed.

‡ Data not reliable enough to publish.

24% of women who had graduated from high school and taken further education or training. In contrast, only 21% of male leavers, 17% of male graduates without further education or training, and 11% of male graduates with such training expected family responsibilities to be one of their main future activities.

Further analysis

The combination of findings from the 1991 School Leavers Survey and the 1995 School Leavers Follow-up Survey should provide a rich database for further research on the school-work transitions of young people. A public use microdata file is now available. In addition, a volume of comprehensive analyses based on the two surveys will be released later this year.



Notes

1 These high school continuers are not included in the remainder of this analysis. Because of the small numbers involved, estimates of the characteristics and activities of high school continuers have unacceptably high sampling variability.

2 The question about plans for the next five years covered a fairly broad range of activities outside postsecondary education or training toward a certificate, diploma or degree; these include programs, courses, workshops and tutorials.

References

Frank, J. *After High School, The First Years: The First Report of the School Leavers Follow-up Survey, 1995*. Ottawa: Human Resources Development Canada and Statistics Canada, 1996.

---. "After high school...Initial results of the 1995 School Leavers Follow-up Survey." *Education Quarterly Review* (Statistics Canada, Catalogue no. 81-003-XPB) 3, no. 4 (Winter 1996): 10-22.

Gilbert, S. "Labour market outcomes for high school leavers." *Perspectives on Labour and Income* (Statistics Canada, Catalogue no. 75-001-XPE) 5, no. 4 (Winter 1993): 12-16.

Gilbert, S. and B. Orok. "School leavers." *Canadian Social Trends* (Statistics Canada, Catalogue no. 11-008-XPE) no. 30 (Autumn 1993): 2-7.

Gilbert, S. et al. *Leaving School: Results from a National Survey Comparing School Leavers and High School Graduates 18 to 20 Years of Age*. Ottawa: Human Resources Development Canada and Statistics Canada, 1993.

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Perspectives on Labour and Income

The quarterly for labour market and income information

What's new?

■ JUST RELEASED

■ *Survey of Consumer Finances releases two income studies*

Income After Tax, Distributions by Size in Canada, 1995

How do transfer payments and income taxes affect the income of lower, middle and upper income families? Over time, have income taxes and transfer payments narrowed or widened the gap between lower and upper income families? *Income After Tax, Distributions by Size in Canada, 1995* (Catalogue no. 13-210-XPB) presents information that can address these questions.

This report includes detailed tables presenting income after tax (averages, medians and distributions), transfer payments, and income tax paid for families and unattached individuals, by various demographic and labour characteristics. Historical data are also included, illustrating the net effect of cash transfers and income tax on family incomes over time. These tables present averages for incomes before transfers, transfer payments, total income, income tax, and income after tax for various family types (elderly families, married couples, two-parent families, lone-parent families). Other historical tables show the percentage of income received in transfers and paid as income tax. Finally, historical inequality measures such as quintile statistics and Gini coefficients are presented, allowing analysts to determine whether income inequality has been decreasing or growing.

Data analysis, definitions, and data quality measures are included. (Income after tax is defined as total money income less income tax paid.)

Characteristics of Dual-Earner Families, 1995

Is the growth in the number of dual-earner families coming to an end? How do families in which both spouses have earnings compare with families in which only one spouse has earnings, in terms of total earnings, transfer payments, total income and income tax paid? Is there a trend toward families in which wives earn more than husbands? In what ways do the demographic traits of single- and dual-earner families differ? *Characteristics of Dual-Earner Families, 1995* (Catalogue no. 13-215-XPB) helps answer these questions.

This report highlights husband-wife families, with emphasis on dual-earner families. It explores the various demographic and economic characteristics of these families and compares them with other husband-wife

families, presenting average incomes, median incomes and income distributions. Data analysis, definitions, and data quality measures are included.

For further information concerning these two publications, contact Réjean Lasnier at (613) 951-5266; Internet: income@statcan.ca. □

■ *Labour Division studies retirement savings*

Retirement Savings through RPPs and RRSPs, 1991 to 1995

According to this recent publication by Labour Division, between 1991 and 1995 close to two-thirds of taxfilers aged 25 to 64 saved for retirement through either a registered retirement savings plan (RRSP) or a registered pension plan (RPP). More than half of these savers (55%) did so each year.

The central and western provinces and the territories had the largest proportion (67%) of taxfilers who saved at least once in the five-year period. The rate was much lower (54%) in the Atlantic provinces, because of below average income and high unemployment.

In 1995 alone, taxfilers aged 25 to 64 saved \$36 billion, or 11.2% of their total income, through RRSPs and RPPs. This proportion increased from 9.7% in 1991 and 10.6% in 1993.

Of those who did not save through either RRSPs or RPPs between 1991 and 1995, four out of five (81%) had incomes under \$20,000 and many (59%) were women. Individuals with no savings will be heavily reliant on government-sponsored programs, such as the Old Age Security/Guaranteed Income Supplement program and the Canada and Quebec Pension Plan, as their primary source of income at retirement.

Age plays a small role in determining whether an individual saves for retirement. Some 73% of taxfilers aged 45 to 54 saved at least once from 1991 to 1995. In contrast, among those aged 25 to 34, only 59% did so.

In 1995, Canadians aged 25 to 64 contributed only 13% of the total \$150 billion that could have been contributed to RRSPs – the so-called RRSP room. At least 6 out of 10 individuals did not use any of that room; this is not surprising, given that 39% of those who could have contributed had incomes under \$20,000.

Only 11% of those with RRSP room used most or all of it in 1995. Those with higher incomes were most likely to do so. Even so, only half of those in the highest income group (\$80,000 or more) used most of it.

For further information on *Retirement Savings through RPPs and RRSPs, 1991 to 1995* (Catalogue no. 74F0002XPB, \$43), contact Thomas Dufour at (613) 951-2088 or Johanne Pineau at (613) 951-4034, Pensions Section, Labour Division; fax (613) 951-4087. □

■ New analytical publication on labour force

Each quarter, the new *Labour Force Update* (Catalogue no. 71-005-XPB) will feature the latest information and trends on a labour market issue. Informative commentary, charts and analytical tables will provide a concise and up-to-date reference on the topic, as well as a useful starting point for further research. Each issue will also contain a dictionary of terms and a guide to other relevant data sources.

The first issue covers "Youths in the labour market." (Subsequent issues in 1997 will look at hours, wages and non-standard forms of work.) Highlights are listed below:

- The labour market has become a more precarious place for young people. The gap between the youth and overall unemployment rates has grown over the nineties. At the same time, the employment rate for 15 to 24 year-olds fell 11 percentage points between December 1989, the year before the recession began, and December 1996, to 51.1%. Labour market participation for this group has also fallen dramatically. Between the January 1989 peak and December 1996, it dropped over 10 percentage points to 61.2%.
- Almost half of 15 to 24 year-olds who do find jobs are working part time, compared with 39% seven years ago. At the same time, however, school attendance has improved, especially among 20 to 24 year-olds, who have fuelled greater enrolment in postsecondary institutions. While only 52% of youths were going to school in 1989, 60% were doing so by 1996.
- Compared with 1989, students are less likely to be juggling work and full-time school. Still, of those who were full-time students, 32% were also working, primarily in the business and personal services or retail trade industries. In 1996, the average work week for full-time students who had jobs was 14 hours.
- In July 1989, 69.1% of youths had summer jobs, compared with 52.1% in the same month in 1996. Over the same period, the summer unemployment rate for students jumped from 10.1% to 18.4%, despite a large drop in labour market participation. Most youths were working part time during the summer of 1996.
- Finally, once students leave school, they have greater difficulty making the transition into the workforce. Although increased education has probably helped, non-student youths have a very high unemployment rate and the proportion with jobs has fallen slightly in

the 1990s. As a result, the school-to-work transition period has grown longer in recent years. In 1996, it began around age 16 as youths combined school and work, and ended around age 23. Once employed, non-student youths are more likely to work fewer hours than their counterparts in the 1980s.

For another look at the data from *Labour Force Update* see "Key labour and income facts" in this issue. For additional information contact Geoff Bowlby at (613) 951-3325; Internet: bowlgeo@statcan.ca or Jean-Marc Lévesque at (613) 951-2301; Internet: levejea@statcan.ca; fax (613) 951-2869. □

■ 1996 Census: Population and dwelling counts

Several new census publications reveal changes in Canada's population distribution between 1991 and 1996. Highlights follow:

- The Census counted 28,846,761 people in Canada, up more than 1.5 million (5.7%) since 1991. This growth is the result of international migration and natural increase (births minus deaths), to an almost equal extent.
- The population has doubled in 45 years from just over 14 million in 1951. Overall, the rate of growth between 1991 and 1996 was slower than that of the previous five-year period.
- In spite of a slowing growth rate, Canada's population increased at an annual average rate of 1.1%, the highest of all G-7 industrialized nations. Average annual increases for the others (between 1990 and 1995) varied from 0.1% for Italy to 1.0% for the United States.

Census reports with details on Canadians' marital status, languages spoken, ethnic origin, income, education and jobs are scheduled between now and June 1998 to round out this statistical portrait.

For further information on the new releases contact your nearest Regional Reference Centre, or the Internet: infostats@statcan.ca. □

■ WHAT'S NEW WITH SLID?

■ The determinants of multiple jobholding

Moonlighting workers represent a significant portion of the Canadian labour force, and the rates for both men and women have been increasing steadily over the last few decades. Moonlighting, or multiple jobholding, may reflect workers' need for more flexibility, especially for

women trying to combine both work and family obligations. For others, the motive may be to acquire additional skills or to enjoy a new challenge. For many, however, holding down a second job is a necessity – the result of economic hardship that threatens the financial stability of families.

The purpose of this research is to gain insight into the determinants of moonlighting. Descriptive empirical analyses will include an examination of moonlighting by gender, age, education, marital status, and occupation. Additionally, it will assess the extent and type of multiple jobholding by parents of preschool age children. Moonlighting behaviour will also be related to income levels to gauge the link between the two factors. In addition, the SLID data will allow for the estimation of an econometric model that examines hypotheses for moonlighting.

The release of subsequent waves of the SLID will allow this research to be extended to examine issues related to the duration of moonlighting spells. The research is being conducted by Dr. Lisa Powell at the School of Policy Studies, Queen's University. For more information on this project, contact Lisa Powell at (613) 545-6692; Internet: lmp@qsliver.queensu.ca. □

■ Labour adjustment and SLID

It is almost unanimously agreed that a period of profound structural change is under way. Part of this has been documented: the shift from manufacturing to services, from routine to "knowledge" jobs, from full-year full-time employment to part-year part-time and short-term contract jobs, and, in many cases, to self-employment. To date, however, this documentation has relied on cross-sectional "snapshots" like the monthly Labour Force Survey, and the recent General Social Survey and Survey of Work Arrangements.

The SLID, however, tracks these changes longitudinally for given workers. It offers answers to many questions: Are workers being "downsized" in greater numbers than before? Are they being downsized more often than before? Do "new economy" jobs require high skill and/or flexible work arrangements? What labour force groups are becoming marginalized? And, perhaps most importantly, what has happened to such traditional rewards as stable income and pension coverage?

Analysts at Human Resources Development Canada (HRDC) are particularly interested in the social and labour market policy implications of these adjustments in a new, knowledge-based economy. The Applied Research Branch at HRDC is currently using the SLID to look at the following issues:

Displaced workers: What kinds of jobs do workers (particularly older and younger ones) lose? How long do they take to find new jobs? How is this period of job search financed? If they exit the labour force, is it for early retirement, or skills upgrading, or simply out of discouragement? If they find new jobs, how do these compare with lost jobs? And how different are all these patterns for workers with different characteristics?

Old jobs versus new jobs: A high volume of turnover has been documented in the labour market. How much of this is part of a fundamental change in the nature of work, from long-term, full-time employment to "contingent" jobs with non-standard hours and/or compensation?

Other current areas of interest: Low income dynamics (that is, the movement of individuals into and out of low income) and school-to-work transitions will be examined as more waves of data become available.

For further information, contact Darren Lauzon at (819) 994-1640; fax (819) 953-8584; Internet: Darren.Lauzon@spg.org. □

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For further information, contact Michael Trant or François Maranda, Agriculture Division, Statistics Canada, at (613) 951-2859; fax (613) 951-3868. Internet: tranmik@statcan.ca; website: <http://www.statcan.ca>. □

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Key labour and income facts

The following is a guide to data sources for labour market, business, income and earnings, pension, education and other household topics. Each quarter, this section will present charts and analysis featuring one or more of these sources. For general inquiries, please contact Joanne Bourdeau at (613) 951-4722; Internet: bourjoa@statcan.ca or Jeannine Usalcas at (613) 951-4628; Internet: usaljea@statcan.ca.

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Customer Services:
(613) 951-9720

Business surveys

Annual Survey of Manufactures
Frequency: Annual
Contact: Jacqueline LeBlanc
(613) 951-3524

Business Conditions Survey of Manufacturing Industries
Frequency: Quarterly
Contact: Claude Robillard
(613) 951-3507

Census

Census labour force characteristics
Frequency: Quinquennial
Contact: Michel Côté
(613) 951-6896

Census income statistics
Frequency: Quinquennial
Contact: Abdul Rashid
(613) 951-6897

Employment and income surveys

Labour Force Survey
Frequency: Monthly
Contact: Nathalie Caron
(613) 951-4168

Survey of Labour and Income Dynamics
Frequency: Annual
Contact: Philip Giles
(613) 951-2891

Survey of Consumer Finances

Frequency: Annual
Contact: Réjean Lasnier
(613) 951-5266

Survey of Employment, Payrolls and Hours

Frequency: Monthly
Contact: Sylvie Picard
(613) 951-4090

Help-wanted Index

Frequency: Monthly
Contact: Sylvie Picard
(613) 951-4090

Employment Insurance Statistics Program

Frequency: Monthly
Contact: Sylvie Picard
(613) 951-4090

Major wage settlements

Bureau of Labour Information
(Human Resources
Development Canada)
Frequency: Quarterly
Contact: (819) 997-3117

Labour income

Frequency: Quarterly
Contact: Anna MacDonald
(613) 951-3784

Household Facilities and Equipment Survey

Frequency: Annual
Contact: Réjean Lasnier
(613) 951-5266

General Social Survey

Education, work and retirement
Frequency: Occasional
Contact: Ghislaine Villeneuve
(613) 951-4995

Social and community support

Frequency: Occasional
Contact: Ed Praught
(613) 951-9180

Time use

Frequency: Occasional
Contact: Ghislaine Villeneuve
(613) 951-4995

Pension surveys

Pension Plans in Canada Survey
Frequency: Annual
Contact: Thomas Dufour
(613) 951-2088

Quarterly Survey of Trusted Pension Funds

Frequency: Quarterly
Contact: Thomas Dufour
(613) 951-2088

Special surveys

Survey of Work Arrangements
Frequency: Occasional
Contact: Ernest Akyeampong
(613) 951-4624

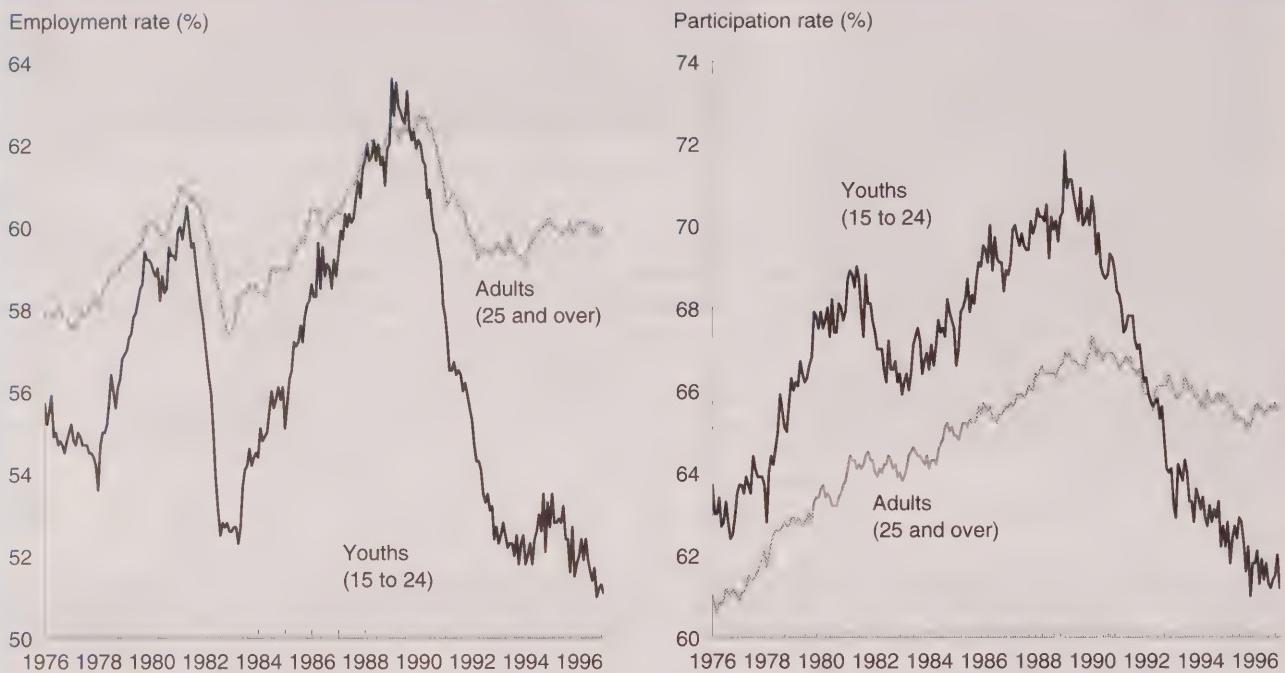
Adult Education and Training Survey

Frequency: Occasional
Contact: Steve Arrowsmith
(613) 951-0566

Graduate Surveys

(Postsecondary)
Frequency: Occasional
Contact: Bill Magnus
(613) 951-4577

The youth labour market



Source: Labour Force Survey

Note: Monthly seasonally adjusted data

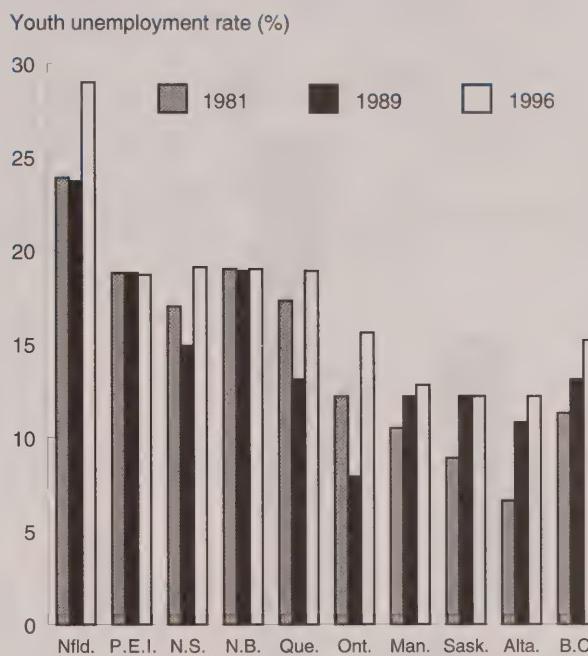
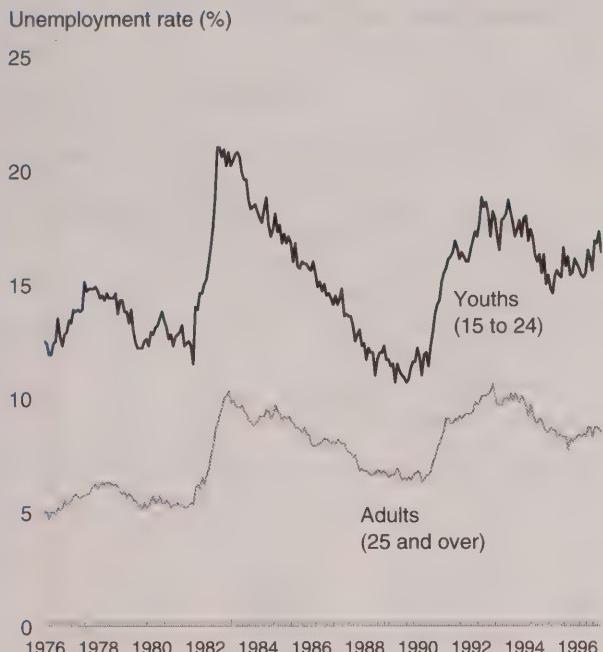
Youth labour market at 20-year low

- Labour market conditions were promising for youths in the eighties but began to deteriorate by mid-1989, just prior to the recession.
- Between August 1989 and December 1993, youth employment plunged by 460,000 (-18%). Weak employment growth in late 1994 and early 1995 failed to hold, and by December 1996 the employment rate for youths slid to 51.1% – 11 percentage points below the December 1989 rate.
- Since 1989, youth participation in the labour market has dropped dramatically. While a contraction in labour force activity is typical during economic downturns, the ensuing expansion failed to attract young

people back to the labour market. By the end of 1996, the participation rate was 61.2% – more than 10 percentage points below the January 1989 peak.

- The proportion of youths participating in the labour market has declined so sharply in recent years that the adult rate, also declining, actually overtook the youth rate in 1993. Since then, the gap has continued to grow; the December 1996 participation rate was 65.6% for adults and 61.2% for youths. Part of this decline can be explained by growth in school enrolment.
- Labour force participation and employment rates have dropped for youths of both sexes, with declines somewhat larger for young men.

The youth labour market



Source: Labour Force Survey

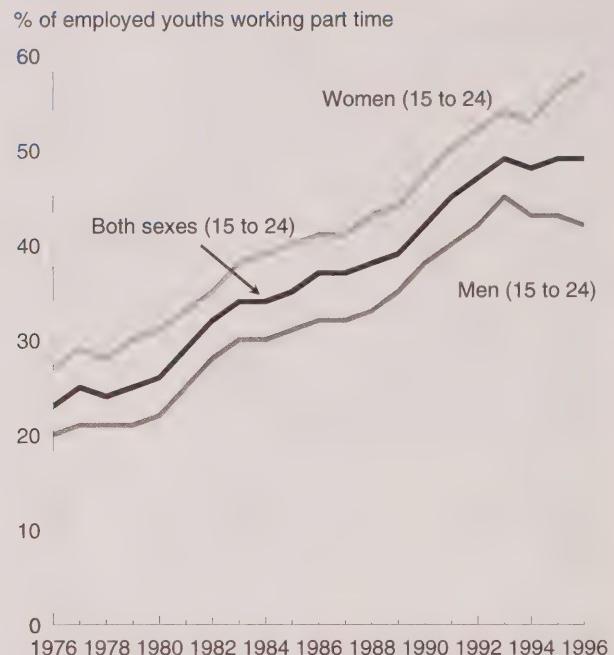
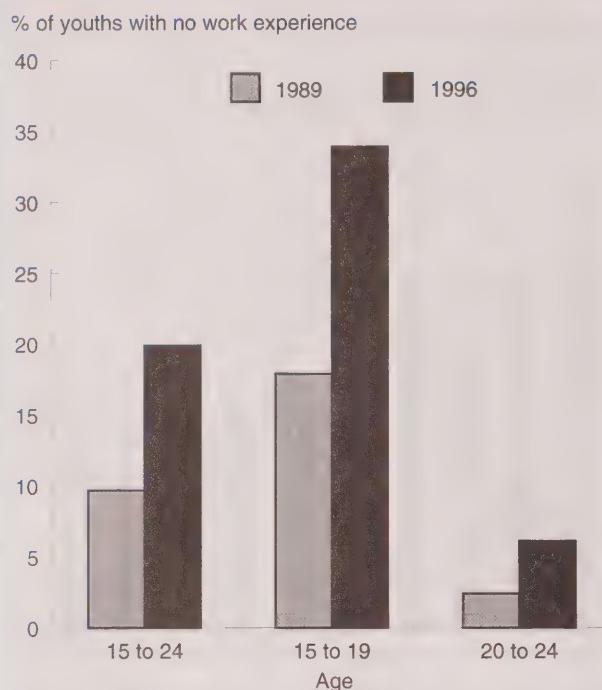
Note: Monthly seasonally adjusted data are used for the first chart, and annual averages for the second.

Unemployment rate for youths remains high

- The overall unemployment rate has trended upward over the last few decades, with the rate for youths consistently higher than that for adults.
- This higher rate can be explained in part by students' varying lengths of job search: some take short-term work while others continue to look for career-oriented employment. It also underlines the importance of previous work experience, something many young job seekers lack.

- Nationally, youth unemployment rates were comparatively low in 1981 (13.1%) and 1989 (11.2%); by 1996, the annual average rate was 16.1%. Youths in Ontario and Quebec experienced the largest drop from 1981 to 1989 and the greatest increase from 1989 to 1996. In 1989, the height of the business cycle, Ontario youths had the lowest unemployment rate of youths in all provinces (7.9%); by 1996, that rate had almost doubled (15.6%).
- In 1996, young people in the eastern provinces and Quebec experienced above average unemployment rates (ranging from 18.7% in Prince Edward Island to 29.0% in Newfoundland). The western provinces and Ontario were below average (from 12.2% in Saskatchewan and Alberta to 15.6% in Ontario).

The youth labour market



Source: Labour Force Survey

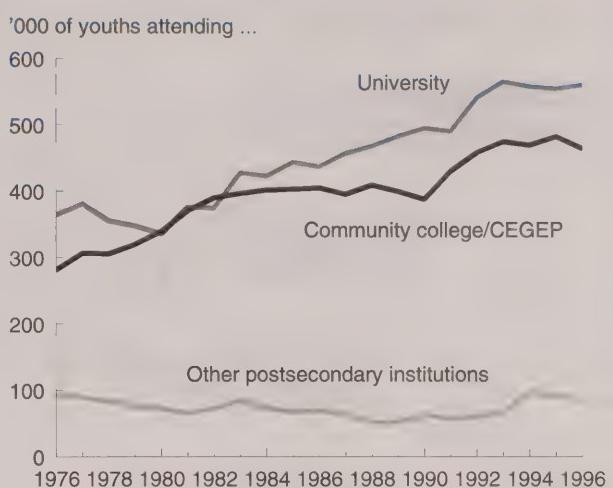
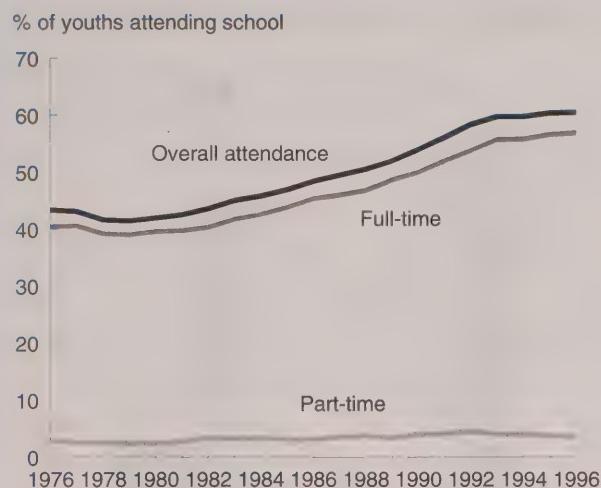
Note: Annual average data for the first chart; October to December averages for the second.

Work experience harder to acquire

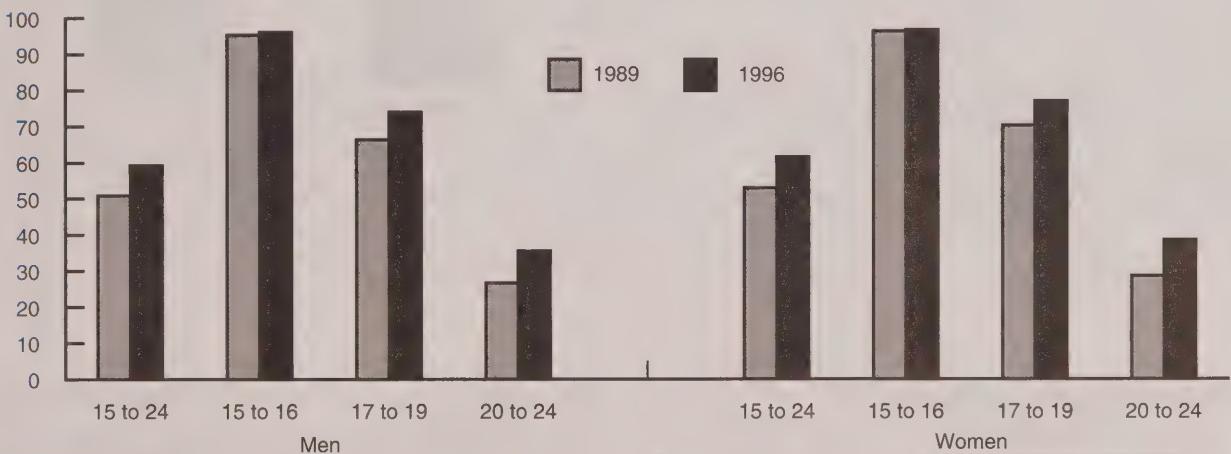
- As it is increasingly difficult to find entry-level employment, young people, especially teenagers, are less and less likely to have work experience. They may find themselves caught in a "no job, no experience, no job" cycle.
- In 1989, just under one in 10 youths had never held a job. By 1996, that proportion had more than doubled (20%). For teens alone, the rate rose from 18% to 34% over the period, while for 20 to 24 year-olds it rose from 2% to 6%.

- For youths with jobs, the incidence of part-time employment more than doubled between 1976 and 1996, from 23% to 49%. This trend reflects in part the growing popularity of school, since 90% of both male and female students with jobs work part time.
- However, part-time work is not necessarily left behind with the school books. Non-student youths are also increasingly likely to work part time.

School attendance



% of youths attending school



Source: Labour Force Survey

Note: October to December averages.

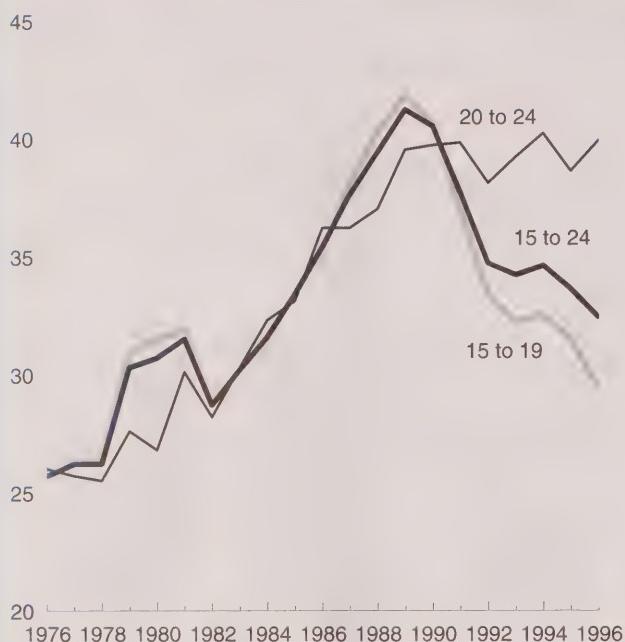
School: A growing necessity

- Today, more than ever before, labour market success is tied to both educational attainment and skills developed through work experience and ongoing training. So it is not surprising that school attendance rates have grown rapidly in the last 20 years, from 43% in 1976 to 60% in 1996.
- Since 1989, the proportion of youths attending school has risen by almost 9 percentage points, from 52% to 60% in 1996, with most of the increase occurring by 1993.

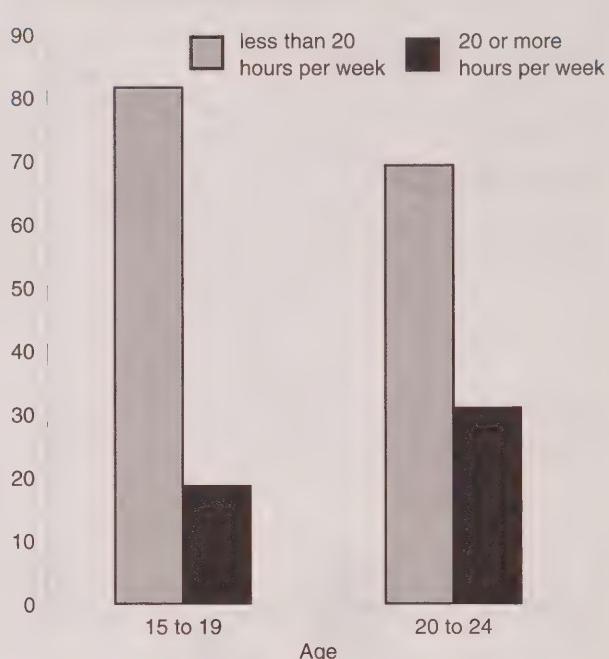
- Men and women contributed equally to this trend. Most of the gain has been in full-time attendance; part-time attendance hovered around 3% or 4% from 1976 to 1996.
- The proportion of 17 to 19 year-olds in school grew markedly between 1989 and 1993, from 68% to 77%, but has since edged back to 76%. School attendance among youths aged 20 to 24 increased by over 9 percentage points to 37% between 1989 and 1996.

Juggling work and school

% of full-time students holding jobs



% of employed full-time students in 1996 who work ...



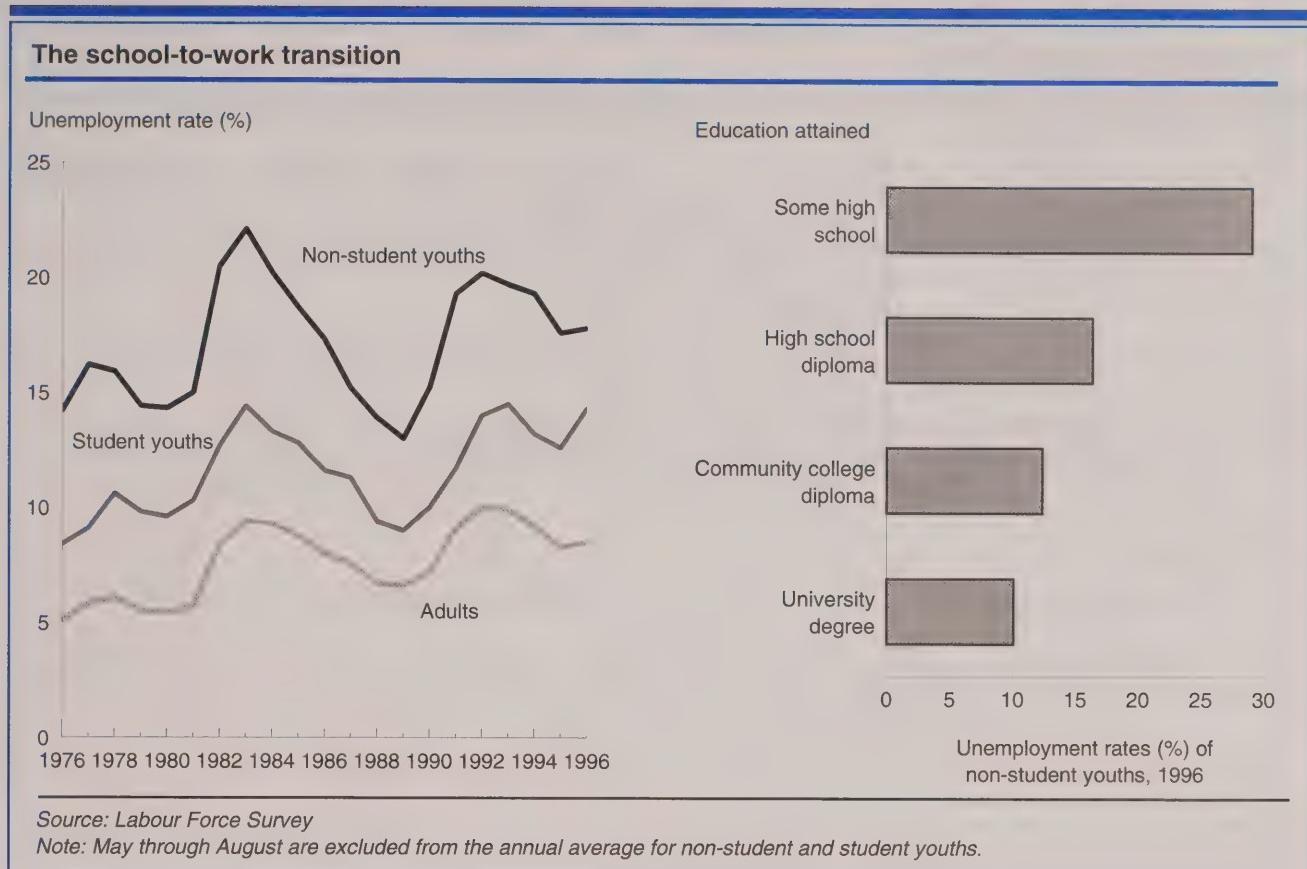
Source: Labour Force Survey

Note: October to December averages.

Work during the school year

- Over the 1980s, the proportion of youths who juggled work and full-time school increased dramatically, from 31% in 1980 to 41% in 1989. Growth in employment rates occurred among teenagers as well as older youths.
- In the early 1990s, the trend reversed, as job opportunities became more scarce for teenage students. Losses continued into the recovery, but at a slower pace. By 1996, the employment rate of 15 to 19 year-old students was 12 points below the peak in 1989.
- The effect of the recession was less severe for older students. Their employment rate stalled in 1990 and was little changed by 1996.

- Juggling work with full-time school can have both positive and negative consequences. Research suggests that jobs that make minor demands on students' time may benefit academic performance, while weekly hours of 20 or more tend to hinder success.
- In 1996, the average work week for full-time students was 14 hours, only slightly above the average of 13 hours a decade earlier.
- Over three-quarters (77%) of full-time students with jobs put in work weeks of less than 20 hours. Longer work weeks were more common for older than younger students. Almost 31% of 20 to 24 year-olds worked 20 or more hours per week at their job, compared with 19% for 15 to 19 year-olds.

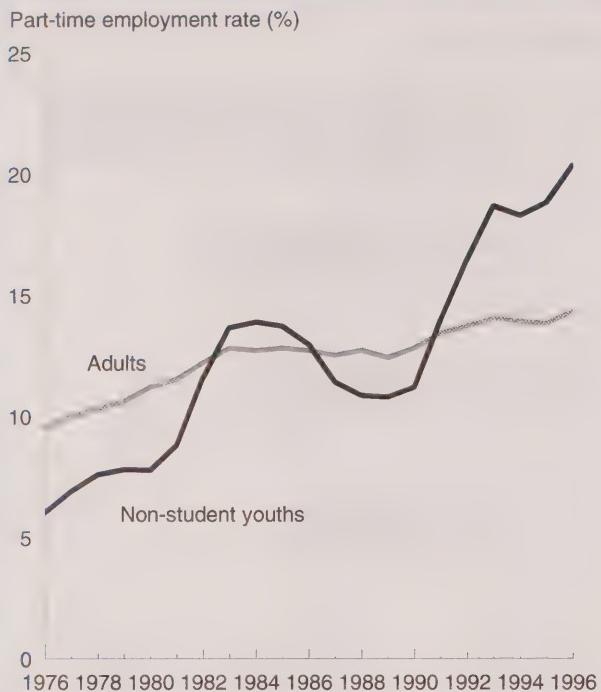


It pays to stay in school

- The school-to-work transition seems to have become more difficult in recent years. Non-student youths started the decade with an unemployment rate of 15.2%. This peaked at 20.2% in 1992, then fell to 17.8% by 1996. Meanwhile, the employment rate fell from 73.2% in 1990 to 69.2% in 1996.

- The more education non-student youths had, the greater their success in the labour market. While the unemployment rate of those who had some high school was 29.1% in 1996, the rate of non-student university graduates was 10.1%.

The school-to-work transition



Sources: Labour Force Survey and Survey of Consumer Finances

Note: May through August are excluded from the annual averages for non-student youths given in the first chart.

Are youths who have left school finding good jobs?

- Over the last 20 years, an increasing number of youths who have finished school have had to turn to part-time employment. In the late 1970s and early 1980s, the number of part-time jobs for non-student youths more than doubled. Then, from 1985 to 1990 it dropped, only to rise again in the 1990s.
- By 1996, 20% of non-student youth employment was part-time, the highest it had ever been. In 1976, the part-time employment rate of non-student youths was only 6%, 39% below that of adults. Twenty years later, it was 37% higher.
- Predictably, the average earnings of non-student youths have fallen in recent years. According to data from the Survey of Consumer Finances, youths who

left school made an average of \$11,000 per year in 1990 (1986 dollars). This fell steadily to \$9,400 by 1995.

- Young school leavers have always earned less than adults, likely the result of less work experience. However, from 1980 to 1995, non-student youths lost ground to the general population. In 1989, non-student youths made \$63 for every \$100 earned by all those of working age. By 1995, that had fallen to \$54.
- Both fewer hours and (especially) lower wage rates have contributed to this growing inequality of annual earnings.

Charts and text for this issue of "Key labour and income facts" were adapted from the *Labour Force Update*, Spring 1997 issue (Statistics Canada, Catalogue no. 71-005-XPB). For more information, contact Geoff Bowlby at (613) 951-3325; Internet: bowlgeo@statcan.ca.

In the works

Here are some of the topics to be featured in upcoming issues

■ The labour market: Mid-year review

An examination of trends and developments in the labour market during the first half of 1997.

■ Non-permanent jobs and workers

This article compares permanent and non-permanent jobs. It looks at wages, hours, benefits and schedules, among other aspects. The definition of non-permanent work arrangements and the diversity of non-permanent jobs and workers are also considered.

■ Recent trends in adult education

Is adult education a means for reducing economic inequality? Is there a relationship between participation in adult education and unemployment? This article looks at trends in adult education from 1976 to 1996, and examines who goes back to school, according to age, sex, education already attained and family situation.

■ Intergenerational equity

A report on a conference held at Statistics Canada February 20 and 21, 1997. Using summaries from selected conference sessions as illustrations, this report presents a brief overview of the concepts and issues associated with "equity" between generations. It also looks at how equity is measured.

■ Permanent layoffs

Many Canadians are increasingly concerned about permanent layoffs, believing that job instability and job loss have increased in the 1990s. Using a new longitudinal data source, this article explores the role of the business cycle, changes in industrial demand, and firm size in the growth in permanent layoffs. An overview of the work displacement process in Canada is also included.

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AUTUMN 1997

Vol. 9, No. 3

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- NON-PERMANENT WORK
- ADULTS GOING BACK TO SCHOOL
- INTERGENERATIONAL EQUITY
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■ Articles

7 The labour market: Mid-year review

Jeffrey Smith

Around the beginning of the year, analysts were predicting that 1997 would be a good year for the Canadian economy and labour market. Is it living up to expectations? This review examines trends and developments in the labour market during the first half of 1997. (This article appeared as an advance release in July 1997.)

21 Non-permanent paid work

Lee Grenon and Barbara Chun

This article compares permanent and non-permanent jobs. It looks at wages, hours, benefits and work schedules, among other aspects. The definition of non-permanent work arrangements, the diversity of these jobs, and the characteristics of the workers are also considered.

32 Facing the future: Adults who go back to school

Dave Gower

Is there a relationship between participation in adult education and unemployment? This article looks at trends in adult education from 1976 to 1996, and examines who goes back to school, according to age, sex, education already attained and family situation.

Perspectives on Labour and Income (Catalogue no. 75-001-XPE; aussi disponible en français: *L'emploi et le revenu en perspective*, n° 75-001-XPF au catalogue) is published four times a year under the authority of the Minister responsible for Statistics Canada. ©Minister of Industry 1997. SUBSCRIPTION RATES: \$58 a year in Canada, US\$58 for all countries outside Canada. Single issue \$18 in Canada, US\$18 for all countries outside Canada. ISSN: 0840-8750. All prices exclude sales tax.

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ON LABOUR AND INCOME

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40 Intergenerational equity in Canada

Report on a conference

On February 20 and 21, 1997, Statistics Canada hosted the conference, "Intergenerational Equity in Canada." This report presents a brief overview of the concepts and issues associated with "equity" between and within generations, summarizing selected conference presentations.

46 An overview of permanent layoffs

Garnett Picot, Zhengxi Lin and Wendy Pyper

Many Canadians believe that job instability and job loss have increased in the 1990s. Using a new longitudinal data source, this article explores the role of the business cycle, changes in industrial demand, and firm size in the growth in permanent layoffs. An overview of the work displacement process is also included. (Adapted from an article in *Canadian Economic Observer*, February 1997.)

We welcome your views on articles and other items that have appeared in *Perspectives*. Additional insights on the data are also welcome, but to be considered for publication, communications should be factual and analytical. We encourage readers to inform us about their current research projects, new publications, data sources, and upcoming events relating to labour and income.

Statistics Canada reserves the right to select and edit items for publication. Correspondence, in either official language, should be addressed to: Heather Berrea, What's new? Co-ordinator, *Perspectives on Labour and Income*, 5-D Jean Talon Building, Statistics Canada, Ottawa K1A 0T6. Telephone (613) 951-8613; fax (613) 951-4179; Internet: berrhea@statcan.ca.

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Highlights

The labour market: Mid-year review ... p. 7

- In the first six months of 1997, employment grew by 193,400, significantly better than last year's pace (56,400) and slightly greater than the 186,300 gained over all of 1996. This year's employment gain nearly matches that of the first six months of 1994, which so far has been the best year of the decade for overall employment growth.
- Quarter-to-quarter growth in real gross domestic product (GDP) was about 0.8% in the last two quarters of 1996 and the first of 1997. While this performance does not match 1994, it nonetheless suggests that the better-than-3% growth forecasted by some analysts may be plausible.
- Merchandise exports, personal expenditures on consumer goods and services, and business investment in machinery and equipment were the three greatest contributors to the first-quarter growth in GDP, essentially mirroring most years of the 1990s.
- Self-employment continued to grow, with gains totalling 145,600 by June. From December 1989 to June 1997, self-employment represented 88% of the increase in employment, although it declined slightly as a proportion of overall growth in 1996 (79%), as it has so far in 1997 (75%).
- Most employment growth was full-time, making way for the third (and second consecutive) year of the nineties in which this has been the case. As in 1996, gains have favoured adults, while losses have most affected the young.
- Ontario and Quebec contributed most to the employment increase over the December 1996-to-June 1997 period. The latter province, along with Saskatchewan and New Brunswick, demonstrated impressive growth rates. British Columbia was the only province to experience a decline in employment during this period.
- The unemployment rate fell from 9.7% in December 1996 to 9.1% in June 1997. The rate for adults dropped from 8.5% to 7.5%, while that for youths (15 to 24) continued the upward trend that began in February 1995, to reach

17.5% this June. Those aged 15 to 19 have been particularly hard hit, with a June unemployment rate of 23.5%.

- The employment rate is showing signs of revival. After a slow decline to 58.3% by February, the employment surge raised the rate to 58.9% by June. This rise matches the best four-month gain of the decade (January to May 1994).

Non-permanent paid work ... p. 21

- In November 1995, paid workers who described their main job as non-permanent accounted for 11% (or almost 1.3 million) of the Canadian paid workforce.
- The most common arrangements of non-permanent work were temporary, contract and term jobs, representing one in two workers with non-permanent jobs. Casual and on-call jobs were also frequently cited, representing one in three non-permanent job holders. One in seven non-permanent job holders was a seasonal worker.
- The prevalence of non-permanent work varied across the country. Newfoundland had the highest percentage of paid workers with non-permanent jobs at 26%, while British Columbia had the lowest (9%).
- Workers in non-permanent jobs were more likely than those in permanent jobs to be young, single or female, or to have shorter job tenure.
- The average weekly earnings of workers with permanent jobs were 55% higher than those of workers with non-permanent jobs. Furthermore, each major type of non-wage benefit was available to a higher percentage of workers in permanent jobs.
- Further analysis shows that job permanency does not seem to be related to an employee's hourly rate of pay, however, but to the number of hours usually worked in a week. Employees with permanent jobs usually had longer work weeks (roughly six more hours on average) than employees with non-permanent jobs when all else was equal. Because workers in non-permanent jobs had fewer weekly hours of work than those in permanent jobs, they had lower weekly earnings.

■ Facing the future: Adults who go back to school ... p. 32

- Adult education is growing. From October 1976 to October 1996, the number of adults attending school full time more than tripled from 107,000 to 344,000. This increase vastly outpaced the rate of growth in the adult population itself. As a result, the percentage of adults attending school full time more than doubled, from 1.0% to 2.1%.
- Improving one's work prospects is the dominant reason for going back to school full time. According to the 1994 Adult Education and Training Survey, 8 in 10 students cited "present or future job" as the main reason for returning to school full time.
- Many of those who would appear to have the greatest need for improved economic prospects are not participating in adult education. People who go back to school are largely already in favourable economic circumstances.
- University graduates are the most likely to upgrade their qualifications later on, while people who did not complete high school are the least likely to do so. The presence of young children also makes a difference. Among adults living with partners, having children seems to discourage a return to school for both men and women up to age 40.
- Young women who are single parents stand out: 10.4% of female single parents under age 30 go back to school, more than young adults as a whole (6.7%), and over four times the rate of young mothers with husbands present (2.4%).
- The link between unemployment experience and going back to school is not strong. This is true for various population subgroups, particularly older men with lower education. Also, except for Newfoundland, provinces with relatively high unemployment rates do not have high percentages of adult students.

■ Intergenerational equity in Canada ... p. 40

- The theme of intergenerational equity touches a variety of social and economic issues, from the transfer of wealth between generations to the direction of these transfers and the relative status of persons in successive generations.

- These concerns were the focus of "Intergenerational Equity in Canada," a conference co-sponsored in February of this year by Statistics Canada and Human Resources Development Canada. This report is a selection of highlights from the conference sessions.

■ An overview of permanent layoffs ... p. 46

- Permanent layoffs are an ongoing aspect of a market economy in which there is "creative destruction." Workers are being laid off and hired in large numbers, more than a million per year.
- Permanent layoffs are much less cyclically sensitive than the other methods firms use to adjust their workforce, like temporary layoffs, quits and hires.
- There is no evidence that permanent layoffs played a larger role (relative to temporary layoffs) in firms' adjustments to changing demand in the 1990s recession than they did during the 1980s recession.
- Also, industries with rapid employment growth do not necessarily have low layoff rates, nor do those with declining employment necessarily experience high rates.
- Small- and medium-sized firms account for most permanent layoffs. Small firms have three to four times the permanent layoff rate of large firms, a difference that persists over the course of the business cycle.

■ What's new? ... p. 53

- *Household Facilities and Equipment, 1997* takes stock of heating equipment and fuel, and of appliances or features like dishwashers, microwave ovens, air conditioning, computers, colour television sets and automobiles. Information on other household items, recreational equipment, supplementary heating equipment and fuel, and dwelling condition is included on a rotational basis.
- *Income Distributions by Size in Canada, 1996*, a Survey of Consumer Finances report, looks at family and individual incomes by source of income, province, sex and other characteristics. Income shares by quintile and incidence, and estimated numbers and characteristics of individuals and families with low incomes are also presented, as is the extent to which certain family incomes fall short of the low income cut-offs.

- The second issue of *Labour Force Update* examines hours of work. Specific issues studied include trends in hours worked, underemployment, voluntary part-time employment, paid and unpaid overtime, moonlighting and the work hours of business owners.
- *Agricultural Financial Statistics, 1995*, the product of a joint venture between Statistics Canada and Agriculture and Agri-Food Canada, gives a picture of the financial performance of farms in Canada. It provides key statistics on operating revenues and expenses by province, type of farm and revenue class, as well as income distribution. Data on off-farm income for operators and families involved in a single unincorporated farm add perspective to this financial picture.
- *Successful Entrants: Creating the Capacity for Survival and Growth*, released by the Analytical Studies Branch, is the second study in a series on small- and medium-sized enterprises. It profiles the characteristics of new firms that survive and investigates the differences between those that survived but achieved little growth, and those that survived and grew rapidly.
- The Analytical Studies Branch has also released two more research papers. *An Experimental Canadian Survey That Links Workplace Practices and Employee Outcomes: Why It Is Needed and How It Works* outlines the need for the proposed Workplace and Employee Survey, an experimental survey sponsored by Human Resources Development Canada. *Working More? Working Less? What Do Canadian Workers Prefer?* uses data from the 1995 Survey of Work Arrangements to determine which workers would prefer more hours for more pay and which would prefer fewer hours for less pay.

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The labour market: Mid-year review

Jeffrey Smith

Many analysts have predicted that 1997 would be a good year for the Canadian economy and labour market. While a range of forecasts was offered, optimists called for as many as 350,000 new jobs, GDP growth near 4%, and an unemployment rate below 9% by year's end. Even those less exuberant expected improvements over last year. Is 1997 living up to expectations?

This article reviews the major economic and labour market developments in the first half of 1997. Results are compared with other years in the 1990s, and a few forecasts are reviewed.

The economic environment

Strong signals early in 1997

After relatively slow growth during 1995 and for the first half of 1996, growth in real gross domestic product (GDP) strengthened substantially. Following six quarters of 0.4% or less, the last two quarters of 1996 and the first of 1997 each posted gains of about 0.8% (Chart A). On an annualized basis, this year's first-quarter growth was 3.4%. Stated another way, the first quarter of 1997 represents a 2.8% increase over the first quarter of 1996. While this recent performance does not quite match 1994, it nonetheless suggests that the better-than-3% growth forecasted by some may be plausible (see *Overview of forecasts for 1997*).

The first-quarter gain was associated with increases in merchandise exports (6.3%), personal expenditures on consumer goods and services (1.3%), and business investment in machinery and equipment (5.9%, following 8.1% and 6.9% gains in the

This article is based mainly on information from the Labour Force Survey (LFS) available as of July 11, 1997. Unless otherwise noted, monthly data have been seasonally adjusted to provide a better picture of underlying trends. Seasonal movements are those caused by regular annual events such as climate, holidays, vacation periods, and cycles related to crops and production. Seasonally adjusted series still contain irregular and longer-term cyclical variations.

LFS estimates for January 1997 are the first to be based totally on a new

questionnaire, phased in since September 1996. All its seasonally adjusted series have been revised back to 1976, reflecting changes in methodology. In addition, the LFS has introduced several new variables. Details of these changes can be found in two documents available on the Internet (Statistics Canada; Sunter et al.).

Unless otherwise stated, figures quoted for the gross domestic product (GDP), or any of its components, are expenditure-based, at market prices, expressed in 1986 dollars.

Overview of forecasts for 1997

Around the beginning or end of each year, forecasts concerning the economy and the labour market abound. After a very good 1994, a weak 1995 and 1996, many banks, consultants and other organizations were optimistic about 1997. They called for improved economic and employment growth, continuing low inflation and interest rates, and some relief from stubbornly high unemployment rates. No particular forecasts are singled out here, but a general summary recalls the mood and range of predictions made for the country as a whole.

GDP: Most predictions for 1997 growth were in the 2.6% to 3.8% range, with 3.0% to 3.3% being typical. For the most part, annual GDP growth in the 1990s has been more modest. The 4.1% gain posted in 1994 was the strongest, followed by 1995 (2.3%) and 1993 (2.2%). GDP grew by 1.5% in 1996.

Employment: A range of opinion on employment growth suggested estimates of 1.9% to 2.6%, yielding a level 260,000 to 355,600 higher than last year's 13,676,200 (annual average). Based on the December 1996 figure (13,753,700) rather than the annual average, these growth rates would

imply an employment gain of 261,300 to 357,600. The mid-point of either range is about 310,000. As with GDP, such growth would be the best since 1994, when employment rose by 276,900 (2.1%) on an annual average basis and about 381,200 (2.9%) on a December-over-December basis.

Unemployment rate: Most commentators were calling for some slight downward movement in the national unemployment rate over the course of the year, to approach 9% by year end (a few even predicted a rate below 9% by December 1997). Typical were average rates in the 9.4%-to-9.6% range, close to that of 1995 (9.5%). The 1996 annual average was 9.7%, which was also the rate recorded for December 1996.

Inflation: The relatively low levels seen recently were expected to continue in 1997. Typically, the 1.5% annual change in the Consumer Price Index (CPI) seen in 1996 was expected to repeat in 1997, with forecasts of 1.4% to 1.6% common.

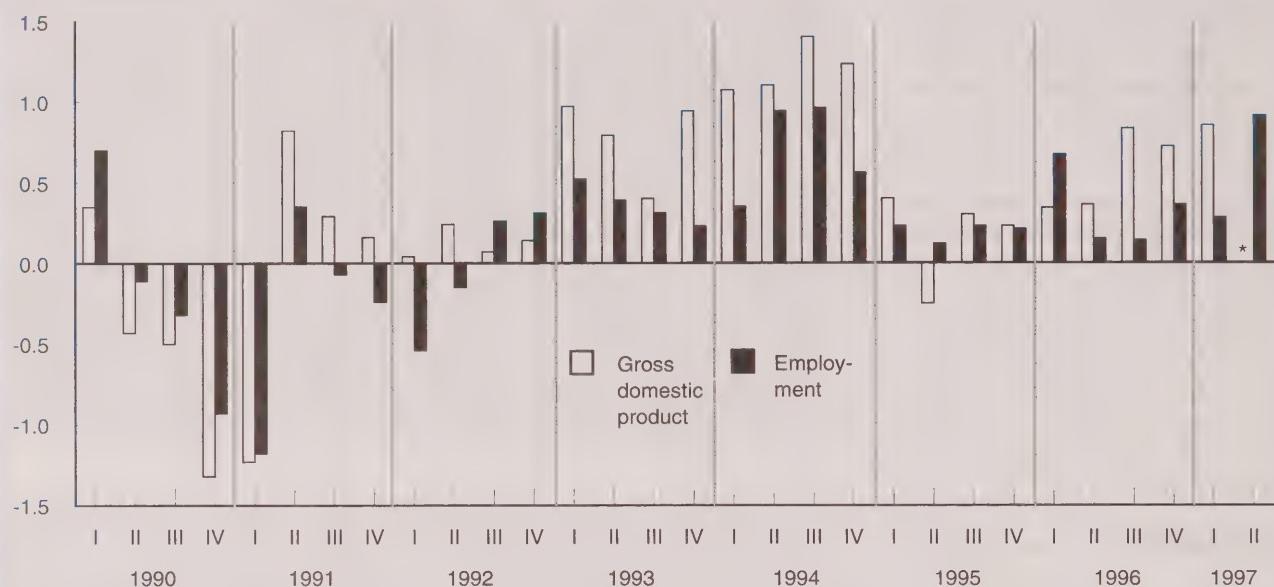
General: Forecasters also saw continuing low interest rates and some strengthening in consumer spending and exports.

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Chart A

Employment growth in the second quarter of 1997 was the best since 1994.

% change from previous quarter



Sources: Labour Force Survey, and National Accounts and Environment Division

* Second-quarter GDP figures not available.

previous two quarters). These were the three greatest contributors (in the order given) to the first-quarter change in GDP, essentially mirroring most years in the 1990s.¹

Opinions differ on whether exports or consumers are leading current economic growth.² On the one hand, consumer spending is the largest component of real GDP (59.7% as of the first quarter of 1997) and its gains in the last two quarters (each greater than 1%) are the first consecutive ones of this magnitude for the decade (Chart B). On the other hand, merchandise exports have been posting greater quarterly gains in the 1990s and have increased their share of real GDP by a factor of 1.6 (to 39.7% in the first quarter of 1997).³

Preliminary indications for the second quarter are also strong. On a monthly basis, real GDP at factor cost

rose 0.8% in April. Manufacturers, wholesalers and retailers (all of whom suffered losses in March) accounted for about 60% of the gain in production. Financial and related services and the mining sector also contributed significantly to the advance.

Other economic indicators

Continuing low interest rates and low inflation have no doubt been a factor in the resurgence of spending on consumer goods and services and housing. For most of 1996, the change in the seasonally adjusted monthly Consumer Price Index over the same month in the previous year stayed near 1.5%. It began to rise in November, reaching 2.3% this January and February. Since then, the increases have been tapering off (to 1.7% in June), returning to levels seen for much of the post-recession nineties.⁴

The prime rate averaged 6.06% in 1996, but finished the year at 4.75% (December average). The average for each of the first 6 months of 1997 held steady at 4.75%. For 1996, conventional mortgage rates averaged 6.19% and 7.93% for one and five years, respectively, but were 5.20% and 6.95% in December. Mortgage rates have stayed relatively low this year (June averages were 5.20% and 7.00%). In June, a one-quarter point rise in the bank rate (from 3.25% to 3.50%) failed to trigger a rise in other rates. And in July, the U.S. Federal Reserve Board decided not to raise interest rates. This move should help to keep Canadian rates steady, at least in the short term.

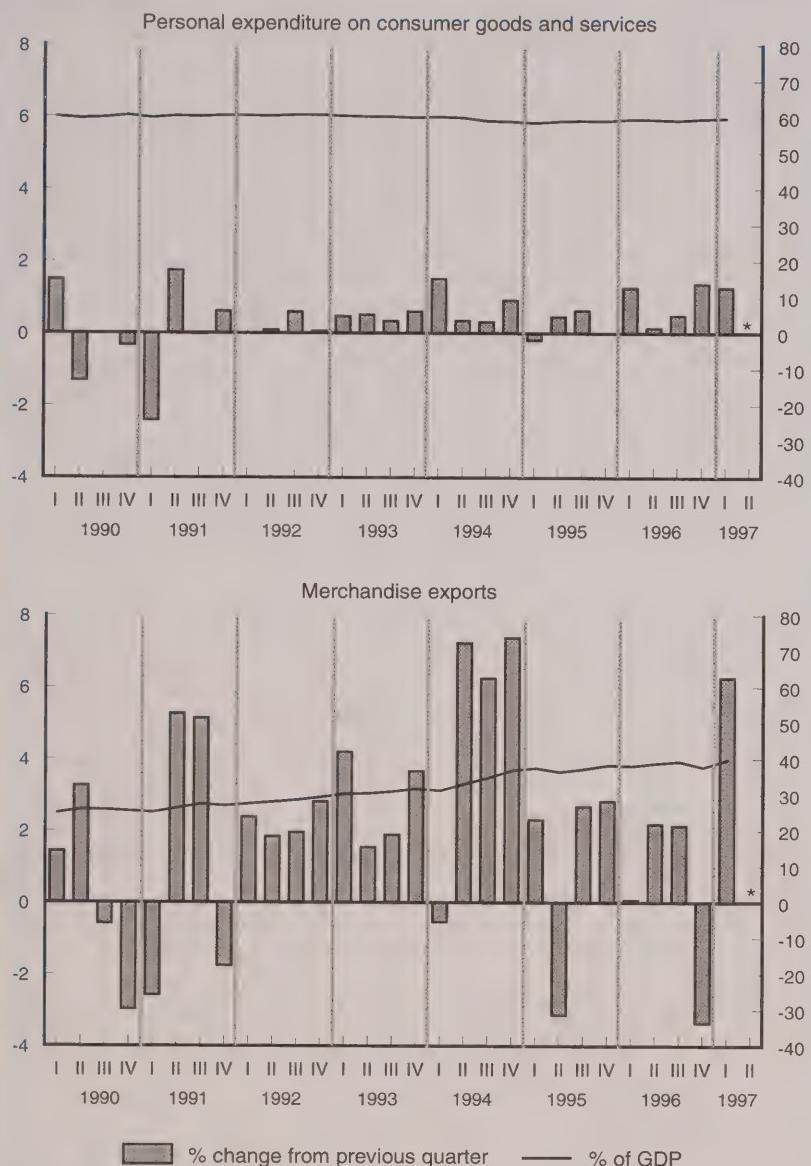
Similarly, part of the export strength over the 1990s can be attributed to the steady weakening of the Canadian dollar against the U.S. dollar. In 1990, the exchange rate

Chart B

Merchandise exports account for an increasing share of GDP.

% change from previous quarter

% of GDP



Source: National Accounts and Environment Division

* Second-quarter figures not available.

averaged 1.167 (Canadian dollars per U.S. dollar). It rose from 1992 to 1995 and has held more or less steady since. The average for the first 6 months of 1997 was 1.372.

Based on early indications, 1997 seems to be unfolding as forecasters predicted. Usually, economic growth is associated with positive results for employment. So, with a good perform-

ance in the first quarter, and with the stage seemingly set for solid second-quarter results,⁵ how has the labour market fared in the first half of the year?

The labour market**Overall employment**

By June of this year, employment had grown by 193,400, significantly better than last year's pace (56,400) and slightly greater than the 186,300 gained over all of 1996.⁶ The advance in average employment in the second quarter of this year resembles the quarterly growth rates posted in the middle two quarters of 1994 – so far the leaders in the 1990s (Chart A). The employment change over the first 6 months of 1997 is equivalent to a compound growth rate of 0.23% per month. Over the long term, this is a strong performance (see *Employment growth in historical context*), exceeding the growth in two-thirds of all 6-month periods since January 1976.

So, although the year began very slowly, with the February employment level dipping below that of December 1996, it has so far been relatively strong and stands as one of the better "first halves" of the 1990s for overall employment growth (Chart C). In fact, employment in June was 1.4% above the December 1996 level; only 1994 had a better performance at the midway point. (June 1994 was 1.5% higher than December 1993. The first half of 1994 accounted for 193,800 of the 381,200 employment gain that year.)

The 1980s employment downswing was "deeper but briefer" than the one in the 1990s, but with a stronger recovery/expansion phase. However, January to November 1994 (months 45 through 55 on Chart D), and November 1995 to April 1996 (months 67 through 72) were both good periods. The first half of 1997 has produced another (so far quite steep) employment surge, from February to June (months 82 through 86).

Employment growth in historical context

In order to place this year's employment to date into context, comparisons are made with other years (full or part) in the decade. As well, this review sometimes compares a period (such as December 1996 to June 1997) with all periods of that length since January 1976, using the calculated compound monthly rate of growth (or decline) over the period. For example, compound monthly rates of growth for 6-month periods ($n=6$), are calculated as

$$100((E_{t+n}/E_t)^{(1/n)} - 1), \text{ where } E = \text{employment}; \\ t = \text{Jan. '76, Feb. '76, ..., Dec. '96};$$

Jan. '76 to Jul. '76: $100((9,798.1 / 9,711.9)^{(1/6)} - 1) = 0.147\%$

Feb. '76 to Aug. '76: $100((9,812.5 / 9,694.2)^{(1/6)} - 1) = 0.202\%$

...

Dec. '96 to Jun. '97: $100((13,947.1 / 13,753.7)^{(1/6)} - 1) = 0.233\%$

Since there are 258 months in the series of seasonally adjusted monthly employment from January 1976 to June 1997, 252 six-month periods can be identified. Such calculations can be done for other period lengths by using values other than $n=6$ in the formula. Once all calculations are done for the periods chosen, a variety of statistics can be calculated to describe how a particular period, such as the one most recently ended, fits in.

Although the monthly seasonally adjusted LFS data go back to January 1976, the analysis could be restricted to certain subsets of the data. For example, if the period to be assessed falls in an expansionary phase, the set of compound monthly growth rates could be computed only for periods of that length that happen to fall into expansionary phases, and then compared with the period of interest. However, this would

necessitate defining these phases, which could be difficult in itself, and even more complicated if several different comparisons were done. (For instance, different types of employment or different provinces could each require different inclusions and exclusions.) Thus, for simplicity, where this technique is used, the base for comparison is all periods of the length in question dating from January 1976. The table below illustrates some results and their interpretation.

The 6-month column shows that the employment change over the December 1996-to-June 1997 period was positive and equivalent to a 0.23% monthly rate of growth compounded over the 6 months. The next value in the column tells where this period falls in the distribution of all such periods since January 1976. Specifically, it shows a relatively high growth period, since 67% of all 6-month periods had rates below 0.23%. In other words, the observed 0.23% falls at the 67th percentile (the x th percentile is the value in a distribution of values such that $x\%$ of the values lie below it). The next eight numbers in the column give selected percentiles and the arithmetic mean, which roughly describe the distribution. (The periods corresponding to the worst and best periods are given for interest.) Finally, the proportion of the periods with zero or negative compound growth rates is shown. For example, for 6-month periods about 16% have experienced decline or no growth (not common, but not rare either).

The 3-month and 12-month columns are interpreted similarly and are shown for comparison. Generally speaking, the longer the period, the narrower the distribution. The 12 months ending in June 1997 were about average in terms of employment growth, but the growth has been gathering momentum (the percentile ranking is increasing as periods become shorter).

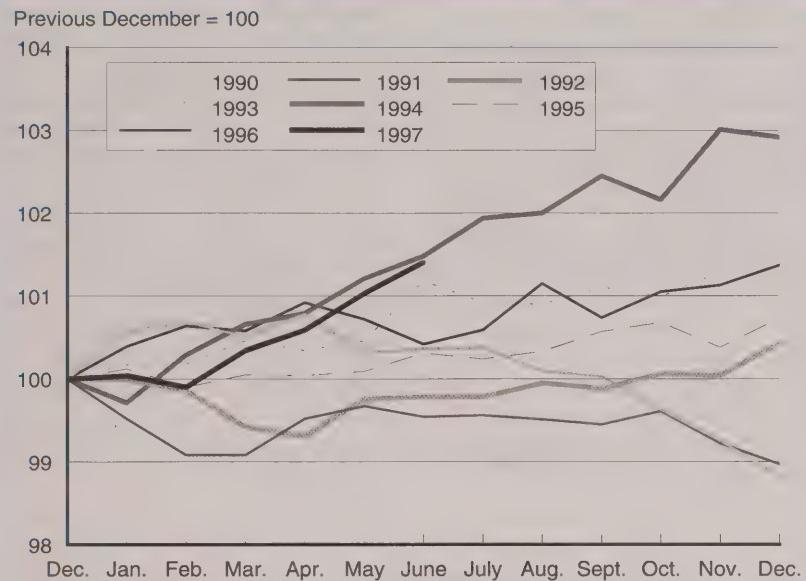
Compound monthly growth rates, overall employment, selected statistics

Period length No. since Jan. '76	3-month 255	6-month 252	12-month 246
%			
Most recent	0.35 (Mar. '97 to June '97)	0.23 (Dec. '96 to June '97)	0.20 (June '96 to June '97)
% ≤ most recent	82.2	66.9	57.5
0th %ile(minimum)	-0.61 (Mar. '82 to June '82)	-0.49 (Mar. '82 to Sept. '82)	-0.39 (Nov. '81 to Nov. '82)
10th %ile	-0.13	-0.10	-0.10
25th %ile	0.04	0.06	0.09
50th %ile(median)	0.15	0.15	0.17
75th %ile	0.29	0.29	0.25
90th %ile	0.41	0.35	0.31
100th %ile(maximum)	0.62 (Jan. '78 to Apr. '78)	0.54 (Jan. '78 to July '78)	0.41 (Jan. '78 to Jan. '79)
Mean	0.14	0.14	0.14
% ≤ 0%	20.0	15.9	17.1

Source: Labour Force Survey

Chart C

This year could eclipse 1994 for best employment growth in the 1990s.



Source: Labour Force Survey

These bright spots can be seen more clearly in the movements of the employment rate. Although overall employment has risen by over three-quarters of a million in the 1990s (up 798,600 as of June 1997 over December 1989), the rate of increase has not kept up with population growth. The employment rate declined dramatically in the early 1990s, although moderate employment gains in 1992 and 1993 slowed the decline (Chart E). January 1994 saw the rate hit its low point of the decade at 57.8%. The employment surge that year boosted the rate to its post-recession high of 59% before the latter resumed its downward trend and fell to 58.4% in November 1995. A second employment surge brought the rate back to 58.8% by April 1996. After a slow decline to 58.3% in February 1997, it climbed to 58.9% (June 1997), thanks to renewed employment growth early this year. This 0.6 percentage-point rise matches the January-to-May 1994 increase as the best 4-month rise of the 1990s. It remains to be seen

whether the present upturn will sustain itself, or prove to be another short-lived burst typical of the 1990s.

Goods and services

In the 1990s, employment growth has come primarily from the service sector.⁷ In the decade's two strongest years (1994 and 1996), both goods and services contributed to the growth, with goods accounting for just over half of the total gains those years. In the first 6 months of 1997, employment grew by 127,900 in the service-producing industries (1.3% growth over December 1996). Although employment in the goods sector also gained (65,500 or 1.8% since December 1996), this was the result of the June increase of 73,800. Over the first 5 months of the year, employment in this sector actually fell by 8,300.

Employment in manufacturing rose by 89,100 (4.3%), with much of that (52,400) also coming in June. Both durable and non-durable manufactur-

ing contributed to the rise (durables accounted for about 61%). This growth is not unexpected, given the strength in consumer spending and exports already noted. Construction also posted a gain (22,300 or 3.0%), linked to low interest rates and increased housing starts, especially in Ontario. However, these gains were tempered by declines of 38,700 (-5.1%) in primary industries (mostly agriculture, which dropped 39,700 or 8.6%) and 7,200 (-5.0%) in utilities.

While service sector employment was generally upbeat after its relatively sluggish year in 1996, some industries lost while others gained in the first half of 1997. Big gains were seen in the large community, business and personal services (CBPS) group (129,000 or 2.5%), fuelled largely by business and personal services (up 3.7%, to contribute 103,200 or about four-fifths of the total CBPS gain). Employment was also up in transportation, storage and communication (47,500 or 5.6%). On the other side of the ledger, public administration continued its general downward slide, dropping 23,100 (-2.8%), while employment in finance, insurance and real estate declined by 19,700 (-2.5%). In trade, the remaining major group, employment was little changed over the first half of 1997 (-5,700 or -0.2%). This was the result of offsetting movements in wholesale and retail: wholesale trade employment was up 18,100 (2.8%) while retail was down 23,700 (-1.4%). Employment growth in the former is consistent with its strong sales (in turn, consistent with the advances in exports, imports and manufacturing). While retail sales also posted gains in the first part of the year, restructuring in this sector may account for some of its recent employment weakness.

Self-employment continues to grow

Since December 1996, employment has grown by just 47,800 for paid workers (employees) (0.4%), owing to growth in private paid employment

(up 72,900 or 0.8% since December 1996) and a drop in public employment (-25,200 or -1.2%, almost all of it in June). For private employees, gains in the latter part of the period, especially March (56,000) and June (57,000), outstripped the losses at the start of the year. Meanwhile, self-employment⁸ has grown each month, with gains totalling 145,600 (6.1%) by June.

The strength in self-employment growth is not new. Self-employment grew by almost 6% between December 1989 and July 1990. And since July 1996, 11 consecutive months have seen increases, most of them large (Chart F).⁹ As a result, self-employment has moved from 13.8% of total employment in December 1989, to 18.1% as of June 1997. Over the same period, the share of total employment

represented by private employees dropped from 70.0% to 67.1%, and by public employees, from 16.1% to 14.7%.

For employees, weak growth is familiar. In February 1997, the number of private employees was just 8,400 (0.1%) above that of December 1989. However, in March, April, May and June, growth in private employment more than offset the losses in the first two months of 1997.¹⁰

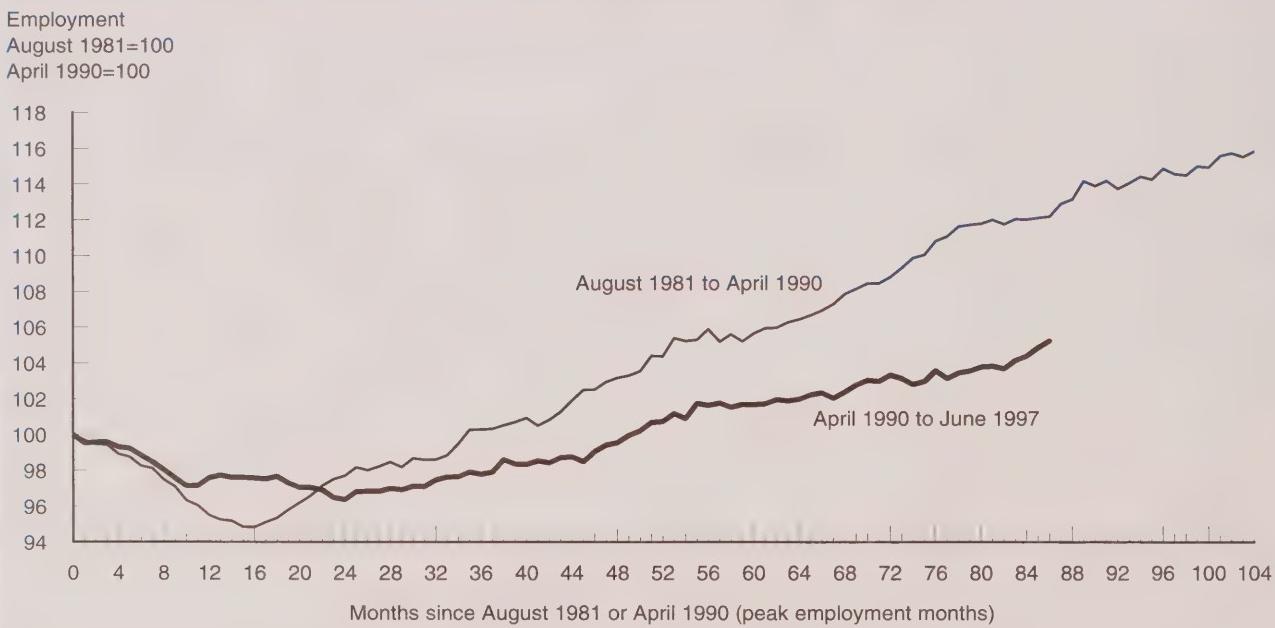
Throughout the nineties, self-employment has increased every year (December-to-December measure). Other than in 1993 and 1994, its gains have exceeded those for employees. From December 1989 to June 1997, self-employment represented 88.3% of the increase in employment. However, since the end of 1995 it has

accounted for a somewhat smaller (though still substantial) proportion of the overall growth: 78.6% in 1996 and 75.3% so far in 1997.

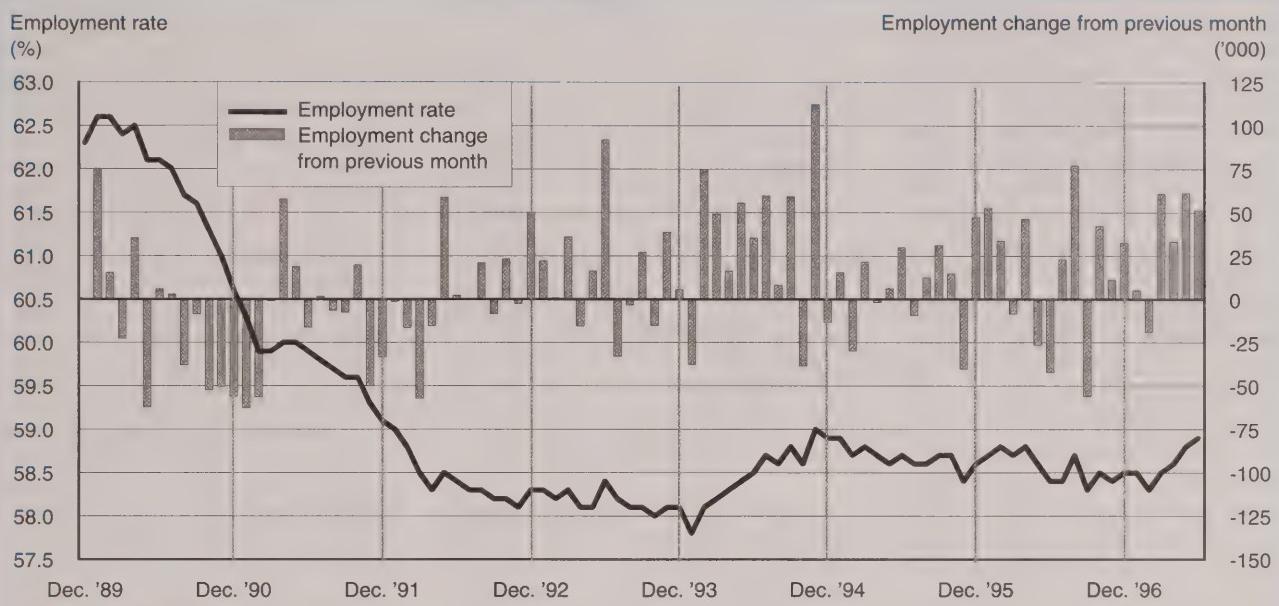
Youths still hurting

Since the end of the last recession, the beneficiaries of employment growth have been adult men and women. Aside from a little spark around the end of 1994, youths' employment growth has yet to be rekindled. As of this June, 17,900 fewer persons aged 15 to 24 were employed (-0.9%) than had been in December 1996. On the other hand, adult employment rose over the same period by 211,300 (1.8%). Although adult men accounted for two-thirds of this gain (up 141,300 or 2.2%), adult women's gain was also strong (70,000 or 1.3%).

Chart D
Employment growth spurts have been fewer and shorter in the 1990s.



Source: Labour Force Survey

Chart E**Sustained rises in the employment rate have been rare in the nineties.**

Source: Labour Force Survey

Growth in full-time employment

Overall, employment growth since December 1996 has been full-time (defined as 30 hours or more per week at one's main or only job). Full-time employment rose by 229,700 (2.1%) while part-time dropped 36,300 (-1.4%). As previous reviews have noted, part-time employment growth has characterized the decade. From 1990 through 1996, part-time employment posted gains in all but one year (1994), while full-time did so in only three of the seven (1993, 1994 and 1996). Over the period, part-time employment rose about 423,000 while full-time gained about 182,000. Consequently, full-time as a percentage of total employment dropped from 83.2% in December 1989 to 80.8% in December 1996. By June 1997, the proportion had risen to 81.4%. If this pattern continues, 1997 will be only the third year of the decade in which full-time growth has dominated.

Adults' employment gains so far have been largely full-time: of men's 141,300 rise, 134,400 (or 95.1%) were full-time; of women's overall 70,000 gain, 84,000 were full-time, offset by a loss of 14,000 in part-time. For adult men, the proportion of employment that is full-time has fallen through the 1990s, from 95.7% (December 1989) to 94.0% in December 1996. With their robust growth so far this year, the slide appears to have been arrested, with the proportion holding at 94.0% in June. For women the picture is similar. After hovering at 76% or a little above throughout the 1990s, the proportion of women's employment that was full-time fell in late 1996 to reach 74.7% in December. In 1997, the decline seems to have halted and even reversed, with the proportion reaching 75.3% in June.

Like adults, youths have seen their full-time proportion fall during the 1990s, but more sharply. From 64.4%

in December 1989, the proportion of youth employment that was full-time fell to 54.5% in December 1996. However, while part-time employment fell 29,200 (-3.2%) in the first half of 1997, full-time rose by 11,300 (1.0%), bringing the proportion back up to 55.6% in June, the highest since March 1995 (when it was 55.9%).

Provincial picture

Ontario and Quebec contributed most to the employment change from December 1996 to June 1997 (Table 1). Quebec, Saskatchewan, New Brunswick and British Columbia provided some notable results. Quebec's showing of 69,900 additional employed is an impressive 2.2% growth, a turnaround from 1996 when employment slipped by 20,100 for the year (December-to-December change). The compound growth rate of 0.36% per month over the first 6 months of 1997 ranks in the 90th percentile for all 6-month periods since 1976. However,

because this strong performance follows a period of decline, it leaves the province's employment just 21,700 (0.7%) ahead of its most recent high in February 1996 (Chart G). Quebec's gains so far have come in the service sector (primarily in community, business and personal services). Goods sector employment has been weak, although declines in agriculture and construction masked a strong showing in manufacturing. Saskatchewan also posted a strong first half, coming in with growth of 2.7% or 12,500. In fact, the compound monthly growth rate of 0.45% puts this 6-month performance in the 93rd percentile for all 6-month periods since January 1976 (that is, only 7% have been better). As in Quebec, gains in service sector employment provided the growth, thanks mainly to community, business and personal services; and finance, insurance and real estate. The goods sector was weak, with gains in manufacturing employment being offset by a drop in agriculture. New

Table 1
December 1996-to-June 1997 employment change

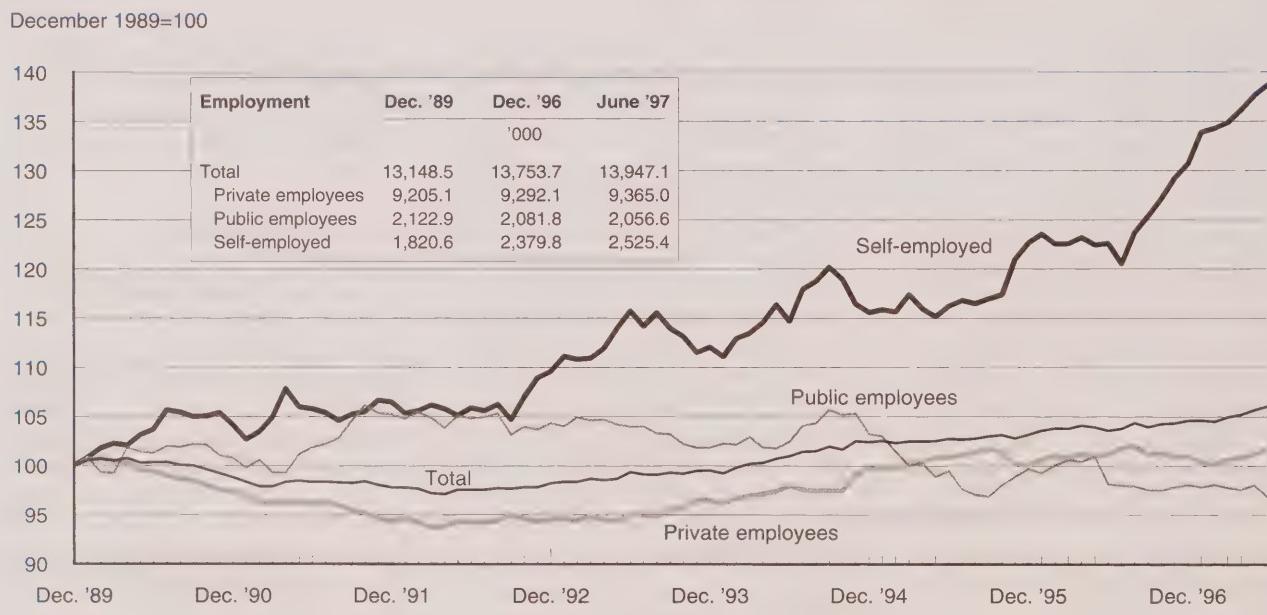
	Change	% change	Compound monthly growth rate	
			%	Percentile
Canada	193,400	1.4	0.23	67th
Newfoundland	700	0.4	0.06	47th
Prince Edward Island	100	0.2	0.03	38th
Nova Scotia	4,500	1.2	0.19	59th
New Brunswick	9,300	3.0	0.50	92nd
Quebec	69,900	2.2	0.36	90th
Ontario	90,900	1.7	0.28	70th
Manitoba	2,100	0.4	0.07	45th
Saskatchewan	12,500	2.7	0.45	93rd
Alberta	15,100	1.1	0.17	46th
British Columbia	-11,600	-0.6	-0.11	10th

Source: Labour Force Survey

Brunswick experienced fluctuations during the first half of 1997, though overall employment growth was strong. The addition of 9,300 employed since December offset the declines of the second half of 1996, but

still left the province below its December 1994 peak. The employment gains in the first half of 1997 were spread over almost all industry groups, although business and personal services did see noticeable declines.

Chart F Self-employment continues as the main vehicle for employment growth.



Source: Labour Force Survey

At the other extreme, after a long run as the leading job generator among provinces, British Columbia may have cooled down: a decrease of 11,600 brought employment levels down 0.6% in the first half of the year. The service-producing industries accounted for most of the decline, particularly in trade; finance, insurance and real estate; and public administration. (Community, business and personal services did gain, but not enough to offset the other losses.) While a 6-month net employment decline is not unheard of in British Columbia, the period ending in June 1997 was poor. The compound monthly growth rate of -0.11% corresponds to the 10th percentile for all 6-month periods in the province since 1976. It should be added, though, that this follows the province's peak employment level of the decade in December 1996, and that the losses occurred in the first quarter of the year, with small gains coming in April, May and June. (The compound monthly growth rate for that 3-month period was 0.23%, or the 50th percentile.)

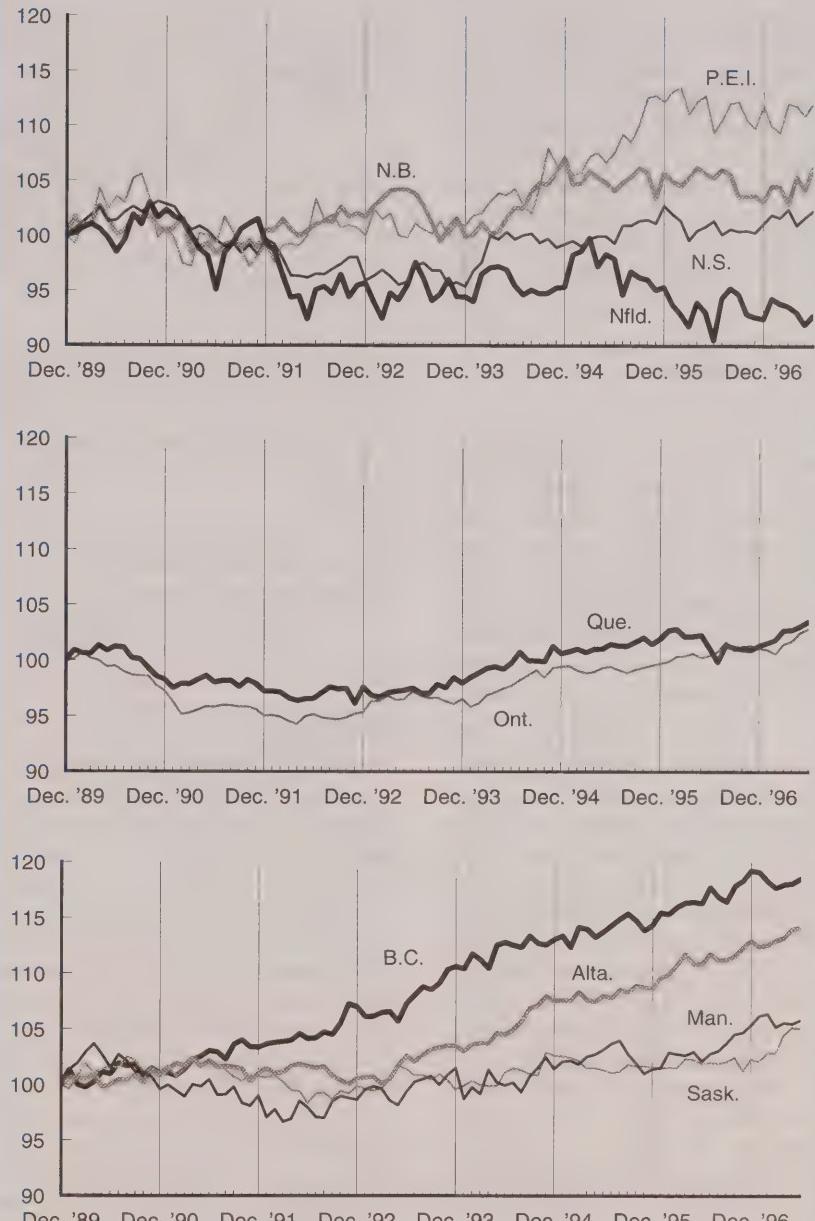
Aside from New Brunswick, the picture in the three other Atlantic provinces was mixed during the first half of the year. In Newfoundland, manufacturing and construction posted gains (possibly a lingering effect of the construction phase of the Hibernia project), which were nearly offset by losses in the service sector. Nova Scotia saw alternating employment gains and losses during the period, leaving employment up 4,500 in June compared with December 1996, still slightly below its post-recession peak (attained in December 1995). As in Newfoundland, manufacturing and construction gained, and the service sector lost ground. Prince Edward Island's unchanged employment level was the result of small, offsetting movements across industries.

Ontario began the year with two months of employment decline, but rebounded strongly to surpass its previous peak of November 1996. In

Chart G

Although 1997 started slowly for some provinces, most gained employment.

December 1989=100



Source: Labour Force Survey

fact, the gains of March, April, May and June produced a compound growth rate of 0.55% per month for the 4 months ending in June, putting it in

the top 5% of all 4-month periods since 1976 (95th percentile). Employment gains in the first half came largely in business and personal services;

transportation, storage and communication; and construction.

In Manitoba, employment made small gains and losses across industries, leaving the overall level little changed. After a decline in January, employment in Alberta resumed the growth that has been typical of the last several years. In fact, the compound monthly growth seen from December 1996 to June 1997 places this period just below the median for all 6-month periods in Alberta since 1976. Gains in the first half of the year were concentrated in community, business and personal services; manufacturing; and trade.

Unemployment

Overall

Employment growth in the first 6 months has been strong (193,400), so even with a fairly large increase in the labour force (104,500), the number of unemployed dropped by 88,900 (Table 2). The unemployment rate fell from 9.7% to 9.1%. Until this year, recent upturns in employment have tended to encourage people to join the labour force, keeping unemployment high.¹¹

The Help-wanted index¹² is a measure of employers' intentions to hire new workers. The index rose in June for the 11th consecutive month, to reach 121 (based on June 1996=100), up from 99 in July 1996. The last time the index was that high was in March 1991 (120). The steep rise in late 1996 and early 1997 is consistent with employment gains over the period and, to the extent that positive changes in the index anticipate future hiring, bodes well for the rest of 1997. The recent rise in the index may also partly explain the upward movement in the labour force participation rate since March, since persons who had left the labour market earlier might have returned if they thought more work was available. In fact, after declining steadily from 65.0% in October 1996 to 64.5% in March (the lowest since November 1995), the overall (both sexes

**Table 2
Selected labour force indicators**

	Dec. '96	June '97	Change	
	'000	'000	% point	
Population (15 and over)	23,507.4	23,678.0	170.6	0.7
Labour force	15,239.1	15,343.6	104.5	0.7
Employment	13,753.7	13,947.1	193.4	1.4
Unemployment	1,485.4	1,396.5	-88.9	-6.0
Participation rate	64.8	64.8	-	-
Employment rate	58.5	58.9	0.4	0.7
Unemployment rate	9.7	9.1	-0.6	-6.2

Source: Labour Force Survey

aged 15 and over) participation rate rose to reach 64.8% by mid-year, the same as in December 1996. Also, the sustained rise in the index may suggest further increases in the participation rate.

Rising rate for youths

While the overall unemployment rate declined over the first half of the year, not all age groups enjoyed lower rates. By June, workers aged 25 to 54 had shaved 0.9 percentage points off their December 1996 rate, to reach 7.7%, only the second time since 1990 that their rate had dipped below 8% (Chart H). The rate for older adults (55 and over) also trended downward. Their June rate of 6.3% returned them to their early 1996 position. Unemployment rates declined for both adult men and women from December 1996 to June 1997. Altogether, the unemployment rate for adults dropped from 8.5% in December 1996 to 7.5% in June 1997. Throughout the 1990s, adult men's rate has been generally higher than that of adult women, though the two have tended to rise and fall together. The gap was greatest in 1992, but has diminished considerably since then (Macredie, 1996).

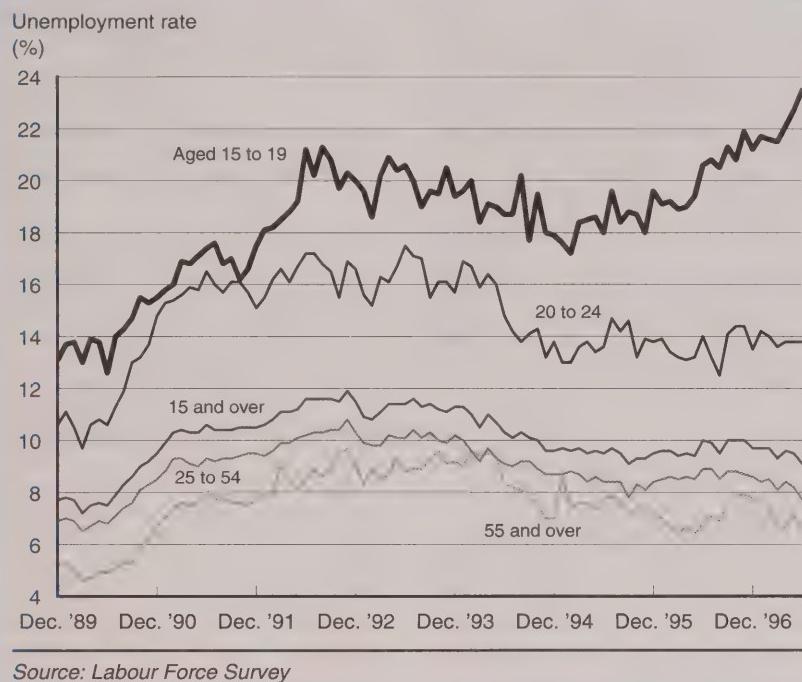
Meanwhile, the unemployment rate for youths (15 to 24) continued the upward trend that began in February 1995. Since September 1996, the

rate has been close to 17.0%, although steady increases advanced it to 17.5% by June. Differences emerge if the youths are split into younger (15 to 19) and older groups (20 to 24) (Chart H). The unemployment rate for the older group has held its position for almost three years (around 14%). On the other hand, after having moved more or less in parallel with that of older youths (though at a higher level), the rate for younger youths seemed to take a different course in early 1995. From February 1995 to December 1996, the rate for 15 to 19 year-olds gained 4.0 percentage points to reach 21.2%. By June 1997, the rate hit 23.5%.

As a result of these trends, the ratio of youth-to-adult unemployment rates continued to climb in 1997. It has been between 1.6 and 2.6 since January 1976 (median 1.9). In the nineties, this ratio has been between 1.7 and 2.3 (median 1.8). From May 1996 to February 1997 it was 1.9 or 2.0, but by June had risen to 2.3. The ratio for older youths, which has ranged between 1.5 and 1.9 this decade (median 1.7), crept up to 1.8 this year, essentially because of the falling adult rate. The younger youth-to-adult ratio, however, hit its 1990s high point in June (3.1). Although this is not the highest ever – the range since 1976 has been from 1.6 to 3.4 (median 2.2) – ratios of 3 or more have been rare,

Chart H

The long-awaited decline in unemployment rates may have arrived, except for youths.



Source: Labour Force Survey

even for this young age group. June's is the first of the 1990s; the last one was in January 1982 (3.0).

Provincial unemployment

At the national level, employment growth in the first 6 months of 1997, combined with a reduction in the number of unemployed, resulted in labour force growth that just matched working-age population growth. In other words, the participation rate remained unchanged. (Of all 6-month periods in the 1990s, the participation rate has fallen in two-thirds.) And, given the labour force growth, the decline in unemployment translated into a rather large drop in the unemployment rate.

Aside from Saskatchewan, each province saw its number of unemployed and its unemployment rate lower in June 1997 than in December 1996. In Alberta, Nova Scotia, On-

tario, Quebec and New Brunswick, the situation was similar to the national pattern; that is, the reduction in the number unemployed was more than matched by increased employment (Table 3). However, in the latter three provinces (especially New Brunswick), employment growth was sufficiently strong to promote growth in the labour force that outpaced that in the working-age population (a rising participation rate). Despite the labour force growth in Alberta, its participation rate fell. This was because the province's high rate of growth in the working-age population overshadowed its modest labour force growth. In Nova Scotia, as in Canada overall, labour force growth was just enough to offset growth in the working-age population (the participation rate remained unchanged).

In Newfoundland, Prince Edward Island, and Manitoba, the labour

force shrank, owing to a combination of relatively large declines in the number unemployed, but only modest employment growth. The labour force contraction contributed to the decline in the participation rate in these provinces.

From December 1996 to June 1997, British Columbia saw just a modest drop in unemployment. In addition, it was the only province where employment declined over the period. As a consequence, the unemployment rate dipped only slightly. The shrinking labour force, paired with a quickly growing population, produced a large decline in the participation rate.

Finally, Saskatchewan was the one province with a rise in unemployment over the 6 months. However, its strong employment growth meant a relatively large increase in the labour force, absorbing the additional unemployment and leaving the unemployment rate essentially unchanged. The participation rate rose substantially, since the labour force grew more than five times faster than the working-age population.

Looking ahead

According to the April 1997 quarterly Business Conditions Survey,¹³ some 15% of all manufacturing firms expected to increase employment, while 11% expected to decrease employment, for a positive balance of 4% (74% said "little change"). This result is a bit more encouraging than that of January 1997 (balance of +1%) or April 1996 (-4%). As has been the case since 1991, no firms reported production difficulties due to a shortage of unskilled labour, though in April 1997, 5% did cite a shortage of skilled labour, matching the highest quarterly value of the 1990s. The survey also showed a positive balance of orders received and a smaller proportion of finished product inventories that were "too high" (continuing recent trends). Along the same lines, recent results from the Monthly

Table 3
Changes in selected indicators, December 1996 to June 1997, by province

	Population 15+	Labour force	Employment	Unemployment	Participation rate	Employment rate	Unemployment rate
		'000 (%)					
Canada	170.6 (0.7)	104.5 (0.7)	193.4 (1.4)	-88.9 (-6.0)	-	0.4	-0.6
Newfoundland	-0.9 (-0.2)	-3.6 (-1.5)	0.7 (0.4)	-4.3 (-8.9)	-0.7	0.2	-1.6
Prince Edward Island	0.2 (0.2)	-0.7 (-1.0)	0.1 (0.2)	-0.8 (-7.0)	-0.7	-	-1.0
Nova Scotia	3.0 (0.4)	1.9 (0.4)	4.5 (1.2)	-2.6 (-4.5)	-	0.4	-0.6
New Brunswick	1.8 (0.3)	8.6 (2.4)	9.3 (3.0)	-0.7 (-1.5)	1.3	1.4	-0.5
Quebec	30.0 (0.5)	39.8 (1.1)	69.9 (2.2)	-30.1 (-6.8)	0.3	0.9	-0.9
Ontario	65.8 (0.7)	59.2 (1.0)	90.9 (1.7)	-31.8 (-6.0)	0.2	0.6	-0.6
Manitoba	3.7 (0.4)	-2.0 (-0.3)	2.1 (0.4)	-4.0 (-9.2)	-0.5	-	-0.7
Saskatchewan	3.8 (0.5)	13.6 (2.8)	12.5 (2.7)	1.2 (4.2)	1.5	1.3	0.1
Alberta	27.2 (1.3)	5.5 (0.4)	15.1 (1.1)	-9.5 (-9.9)	-0.7	-0.2	-0.7
British Columbia	36.1 (1.2)	-17.8 (-0.9)	-11.6 (-0.6)	-6.2 (-3.5)	-1.3	-1.1	-0.2

Source: Labour Force Survey

Survey of Manufacturing (through April) indicated rising shipments, soaring levels of unfilled orders, increases in new orders and a falling inventories-to-shipments ratio. Both surveys suggest that, at least in manufacturing (which *directly* accounts for about 16% of total employment and provided 46% of the employment growth in the first 6 months of 1997), growth seen so far this year will likely continue.

The composite index, which paints a broader picture of the economy,¹⁴ rose 0.8% in June, the 21st consecutive monthly increase. While this index generally trends upward, the monthly increases in late 1996 and so far in 1997 have been slightly above average.¹⁵ With 9 of the 10 components advancing in June, the economy seems poised for sustained growth, which could in turn augur well for employment growth over the rest of the year.

Summary

The labour market got off to a slow start in 1997. However, the employment gain in the first 6 months very

nearly matched that of the first half of 1994, which at least for now retains its position as the best year of the 1990s for overall employment growth.

Self-employment continued to post strong gains, although not quite as impressive as those of late 1996. Overall employment growth in 1997 has so far been full-time, making way for the third (and second consecutive) year of the nineties in which this has been the case. The first 6 months also saw the service sector add substantially to its employment, after a relatively modest increase in 1996. Compared with last year, when Ontario and the West gained employment while Quebec and the East lost, employment gains in the first half of 1997 have been more centralized, with Quebec and Ontario providing the bulk of the growth. As was the case in 1996, gains have favoured adults, while losses have most affected the young.

While mid-year results offer no guarantees, barring major reversals this year could meet expectations held by many forecasters. □

Notes

1 In the nineties (except for 1991), merchandise exports have been the largest contributor to the annual percentage change in GDP, usually by a wide margin over the next largest contributor, which has generally been consumer spending. Since 1994, business investment in machinery and equipment has also made a large contribution to GDP growth.

2 See, for example, Bond (1997) and Little and Bourette (1997). The latter article notes that the 1997 first-quarter rise in the Conference Board of Canada's quarterly index of consumer attitudes was the fifth straight quarterly rise, the first time this has happened in 15 years. Although the levels are approaching those seen in 1994, they are still far from those of the late 1980s.

3 Because of the rapid price decline in machinery and equipment (especially computers) in recent years, any spending component with a large portion of these will see its relative importance inflated when measured in 1986 prices. For this reason, trends in share of GDP may be presented in current rather than constant dollars. In the case of consumer spending and merchandise exports, doing so yields results not very different from those

shown. Measured on a current dollar basis, consumer spending's share of nominal GDP was nearly flat over the period shown on Chart B: it rose from 59.5% in the first quarter of 1990 to 60.8% in the first quarter of 1997. For merchandise exports, the share of nominal GDP still rose by a factor of 1.6, from 21.5% in the first quarter of 1990 to 34.2% in the first quarter of 1997.

4 Unadjusted CPI figures show the same pattern: a rise to 2.2% in January and February 1997, falling off to 1.8% in June.

5 Although the economic picture is generally positive, certain trends may indicate lingering weakness. For example, consumer bankruptcies hit a record high in 1996 (79,631 or 3.4 per 1000 Canadians aged 15 and over). So far in 1997, the trend seems to be continuing. The first quarter of 1997 saw 21,141 consumer bankruptcies, versus 19,146 for the same period in 1996 (up 10.4%). In April 1997, a further 8,507 consumers filed for bankruptcy, bringing the 1997 total to 29,648, well above the 25,922 at the same point in 1996. Consumer bankruptcies rose sharply in 1990 and 1991 and have stayed high since. The number of business bankruptcies has fluctuated over the decade, but increased again in 1995 and 1996, reaching 14,229. As of April 1997, 4,517 businesses had filed, down from the 5,259 seen in the first 4 months of 1996. Nevertheless, bankruptcy announcements involving major companies such as Eaton's (February) and Interlink Freight Systems Inc. (July) may influence public perception about the economy. At the time of the announcement, Eaton's had about 6,000 full-time and 9,000 part-time employees, some of whom were expected to lose their jobs. Interlink employed about 2,000 at the time of its filing. The links between economic conditions, bankruptcies and employment are complex and require further study.

Also, household borrowing remains high while growth in personal disposable income is lethargic. This, combined with another fall in the ratio of personal saving to disposable income in the first quarter of 1997 (to about 2%), suggests that consumer spending is being financed by savings and borrowing.

6 As one might expect, on average about half the employment change in a 12-month period occurs in the first 6 months. For all 12-month periods since January 1976, the first 6 months have accounted for about 49% (median) of the total 12-month change. A similar result holds for the 1990s (48%). If only calendar years are considered, the medians are 46% for all years from 1977 to 1996 and 42% for years in the 1990s. Recently, the first half of the calendar year contributed the following proportions of the whole year's employment growth: 88% (1993), 51% (1994), 42% (1995) and 30% (1996).

7 Service-producing industries as a group have gained employment every year this decade (1990 through 1996) for a total of 775,200 (December 1996 minus December 1989). Over the same years, goods-producing industries lost in four out of seven years, for a total decline of 170,000 (Table). Three years have been strong for employment growth in the 1990s. Two of these, 1994 and 1996, are the only ones of note for goods, which contributed just over half of total gains those years. The other year was 1993, which, unlike the other two, relied almost totally on service sector growth. This year could prove to be the fourth big year of the decade, perhaps led by the service sector.

Table (note 7)
**Employment gains/declines
(Dec. minus previous Dec.)**

Year	Total	Goods	Services
'000			
'90	-154.7	-216.6	62.0
'91	-133.9	-176.9	42.9
'92	55.5	-65.9	121.4
'93	172.3	13.1	159.2
'94	381.2	206.7	174.5
'95	98.5	-35.7	134.2
'96	186.3	105.3	81.0
'97 *	193.4	65.5	127.9
'89 to '96	605.2	-170.0	775.2
'89 to '97 **	798.6	-104.5	903.1

Source: Labour Force Survey
* June 1997 minus Dec. 1996.
** June 1997 minus Dec. 1989.

8 Self-employment includes working owners of incorporated and unincorporated businesses, plus unpaid family workers (persons who work without pay on a farm or in a business or professional practice owned and operated by another family member living in the same dwelling).

9 For the 11-month period ending June 1997, self-employment in Canada grew at a compound rate of 1.28% per month, the highest (100th percentile) for any 11-month period measured since January 1976. For all 11-month periods since January 1976, the median compound monthly growth rate for self-employment was 0.27% per month. However, the rate of self-employment growth so far in 1997, while still very high, has not been record-setting. For the 6 months ended June 1997, the compound rate of growth was 0.99% per month (96th percentile for all 6-month periods since January 1976) and for the 3 months ending June 1997, the rate was 0.94% per month (85th percentile).

10 The weakness in private employment growth shows up in the compound monthly growth rates. For example, the compound rate of growth for private employees was -0.01% per month for the 11 months ending June 1997 (22nd percentile for all 11-month periods). The momentum is building, however. Private employment grew at 0.13% per month for the 6-month period ending June 1997 (42nd percentile), and the rate for the 3 months ended June 1997 was 0.34% (72nd percentile, well above the median of 0.16% for 3-month periods).

11 For example, in the 24 months between December 1994 and December 1996, employment grew by 284,800, while the labour force grew by 333,500. The number of unemployed increased and the unemployment rate rose slightly (Table).

12 The Help-wanted index is compiled from the number of help-wanted ads published in 22 newspapers in 20 major metropolitan areas. The index is seasonally adjusted and smoothed to ease month-to-month comparisons. With its June release, the index has been reweighted using the 1996 Census estimates, and the series has been revised historically from January 1981.

Table (note 11)
Selected labour force indicators

	Dec. '94	Dec. '96	Change	% change
	'000	'000	'000	%
Population (15 and over)	22,862.4	23,507.4	645.0	2.8
Labour force	14,905.6	15,239.1	333.5	2.2
Employment	13,468.9	13,753.7	284.8	2.1
Unemployment	1,436.7	1,485.4	48.7	3.4
	%		% point	%
Participation rate	65.2	64.8	-0.4	-0.6
Employment rate	58.9	58.5	-0.4	-0.7
Unemployment rate	9.6	9.7	0.1	1.0

Source: Labour Force Survey

13 Each January, April, July and October, the quarterly Business Conditions Survey asks manufacturing firms to provide opinions about expected production volume, possible employment changes over the next 3 months, orders, inventories and so on.

14 The composite index (also called the composite leading indicator) is made up of 10 components; the housing index (a composite of housing starts and MLS house sales); business and personal services employment; the TSE 300 stock index; the money supply (M1); the U.S. composite leading indicator; the average work week (hours); new orders for durable goods; the shipments-to-inventory ratio for finished goods; furniture and appliance sales; and other durable goods sales. The com-

posite index is based to 1981=100, and is available as a smoothed (referred to in this review) or unsmoothed series.

15 From March 1952 to June 1997, the median monthly change in the smoothed composite index was 0.45% (mean = 0.35%). In the 1990s (December 1989 to June 1997) the median change was 0.47% (mean = 0.33%). From October 1995 to October 1996 (the initial resumption of the upward trend in the index after its downturn in mid-1995), the median was 0.45% (mean also = 0.45%). Finally, from November 1996 to June 1997, the median change was 0.89% (mean = 0.89%).

References

Bond, D. "Exports, not consumers, fuel growth." *The Vancouver Sun*. June 13, 1997, p. E2.

Little, B. and S. Bourette. "Shoppers on a spree." *The Globe and Mail*. June 14, 1997, p. B1.

Macredie, I. "The labour market: Mid-year review." *Perspectives on Labour and Income* (Statistics Canada, Catalogue no. 75-001-XPE) 8, no. 3 (Autumn 1996): 9-16.

Statistics Canada. "Guide to the Labour Force Survey [1997]." Available on the Internet at <http://www.statcan.ca> under "Products and services, Research papers."

Sunter, D. et al. "The Labour Force Survey: Development of a new questionnaire for 1997." Available on the Internet at <http://www.statcan.ca> under "Products and services, Research papers."

Non-permanent paid work

Lee Grenon and Barbara Chun

Some 87% of Canadian paid workers (9.7 million) have permanent employment. However, the pace of change in the workplace over the past decade means that many people no longer expect to remain with the same employer until they retire. Indeed, temporary work arrangements appear to be a growing trend.

Several earlier studies, working with relatively narrow definitions of non-permanent work, examined change in temporary work over time (see *Related studies*). This study, using concepts and data sources that have been developed to track new work arrangements, examines and compares the characteristics of permanent and non-permanent jobs and the workers³ in these jobs. In particular, it makes use of the (expanded) 1995 Survey of Work Arrangements (SWA), which provides comprehensive information on this topic (see *Data sources, concepts and definitions*). The following observations are based on this survey.⁴

Newfoundland has highest rate

In November 1995, paid workers who described their main job as non-permanent accounted for 11% of the Canadian paid workforce. However, the prevalence of non-permanent work varied across the country. Workers with non-permanent jobs were more common in Newfoundland than in any other province, at 26% of all paid workers. British Columbia had the lowest rate (9%). Rates in Ontario and the Prairie provinces generally

Related studies

Temporary or contract work has increased

In 1989 and 1994, the General Social Survey (GSS) studied temporary or contract workers, defined as paid workers with a specified end-date for their job. The self-employed and independent contractors were excluded. Among employees aged 15 to 64 years, workers with temporary or contract jobs were slightly more common in 1994 (9% or 970,000) than in 1989 (8% or 799,000) (Krahn, 1995).¹ This increase was greater in some industries than others. From 1989 to 1994, temporary or contract workers increased from 17% to 22% in construction, from 10% to 13% in social services, and from 8% to 11% in public administration. On the other hand, in the retail sector they dropped from 7% (88,000) in 1989 to 4% (52,000) in 1994. Over the same period, in "other consumer services,"² they decreased from 13% of all employees (136,000) to 11% (128,000). This change by industry may be more related to the business cycle downturn during the early nineties than to a broader structural change in the use of temporary or contract workers.

Temporary help services industry has grown

In the 1950s, the temporary help services industry emerged primarily to provide clerical, secretarial and manual workers as replacements for permanent employees who were temporarily absent from work (Akyeampong, 1989). The industry has evolved with the changing needs of business and a more diversified clientele. Today, businesses call on temporary help services,

also known as personnel suppliers, to provide a wide range of workers (Hamdani, 1996). Employers need workers to supplement the core labour pool as well as to fill in for absent workers. They want a reliable supply of supplementary labour to meet unanticipated changes or seasonal fluctuations. Temporary help can also be used to fill a gap in staffing while employers decide how to commit long-term resources.

One way of measuring the growth of the personnel supplier industry is to track revenue, which reflects the number and duration of assignments (volume of work) and the type of service (skill level) provided (Hamdani, 1996). The industry experienced strong revenue growth throughout the 1980s and peaked in 1989. The increasing use of labour-saving technologies and the growing demand for workers with skills in short supply contributed to a decline in revenues that continued over the next three years. Despite an increase in 1993, personnel suppliers saw revenue remain close to 16% below the 1989 peak.

Short-term job tenure on the rise

The increase in temporary workers and temporary help services coincides with the growth of jobs with short-term tenure. Although the average complete duration of jobs did not show any significant trend between 1981 and 1994, job tenure became more polarized between long- and short-term jobs. This occurred across the entire workforce. It appears that many firms are using a core of long-term employees along with supplementary, short-term employees as the need arises (Heisz, 1996).

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matched the national average, while those in Quebec and the Atlantic provinces exceeded it (Table 1).

Temporary, contract and term jobs most common

The range of non-permanent work arrangements is much broader than

the usual image of "temps." In fact, temporary help agency workers were only a small segment of workers with non-permanent jobs in November 1995 (2%).⁵ Most common arrangements were temporary, contract and term jobs. Casual and on-call

jobs were also frequently cited. The other major type of non-permanent job was seasonal paid work.⁶ Self-employed workers with a seasonal business by definition had a permanent job.

Data sources, concepts and definitions

Data sources

The General Social Survey (GSS) provides information on work and related characteristics. Its 1989 and 1994 cycles yielded data on temporary or contract workers with a specific end-date. Because the 1989 survey (Cycle 4) was conducted in January and February, and the 1994 survey (Cycle 9), over all 12 calendar months, possible seasonal effects in 1989 should be borne in mind if comparisons between the two cycles are made.

The Survey of Employment Agencies and Personnel Suppliers is an annual business survey. A redesigned questionnaire was introduced in 1993 to increase the information collected from each firm and to improve the existing measures from the survey.

The Survey of Work Arrangements (SWA), sponsored by Human Resources Development Canada, was conducted in November 1995 as a supplement to the Labour Force Survey. The objectives of the 1995 SWA were to update 1991 SWA estimates, to fill in data gaps identified since the 1991 survey, and to extend coverage to the self-employed. Some of the redefined concepts pertained to permanent and non-permanent jobs, and types of non-permanent jobs.

All sample survey estimates will have some level of sampling error. Measurement of the standard error of an estimate is expressed as the coefficient of variation (CV), which is expressed as a percentage of the estimate. For the SWA, an estimate of 40,500 or more at the Canada level will have an acceptable CV of less than 16.5%. Estimates of 18,000 to 40,499 must be qualified, or used with greater caution, because their CV is likely to fall between 16.6% and

33.3%, which means the estimate is subject to high levels of error. Estimates between 10,000 and 17,999 are not reliable and are considered confidential, while those under 10,000 are not releasable. Release criteria vary by province and region.

SWA concepts

Data for permanent and non-permanent jobs were collected in November 1995 by the Survey of Work Arrangements. Questions about job permanency were not asked of the self-employed. The survey asked employees about their main job (that is, the job in which they worked the most hours in the reference week):

"Is... 's job permanent, or is there some way that it is not permanent?"

The distinction between a permanent and non-permanent job applies to the job, and not to the worker's intentions. For example, a student working at a permanent job is considered permanent, even though he or she may intend to remain only temporarily in this job.

Permanent jobs are sometimes referred to as indeterminate since they have no specified date of termination.

A job that is *not* permanent will end on a predetermined date or as soon as a specified project is completed. Non-permanent jobs include term positions, casual work, seasonal work, and contract work. Unless otherwise stated, the analysis of non-permanent work in this study excludes seasonal workers and workers who did not state the type of non-permanent work that best described their job.

Respondents who reported that their main job was in some way not permanent were asked a follow-up question:

"In what way is... 's job not permanent?"

The response is classified as follows:

Seasonal jobs last only a limited period(s) at the same time each year. They are structured by the annual labour demands of industries such as agriculture, fisheries, forestry, construction and tourism.

Temporary, term or contract (non-seasonal) jobs are defined by the employer prior to hiring, to be terminated at a specified date or at the completion of a specified task or project.

On-call or casual jobs have work hours that vary substantially from one week to the next, no pre-arranged schedules (in other words, employees are called to work as the need arises), no usual pay for time not worked, and limited prospects for regular work over the long-term.

Work done through a temporary help agency is arranged and paid for by the agency.

Definitions

Personnel suppliers or temporary help services are firms in the personnel supplier industry (classified in the 1980 Standard Industrial Classification system as code 7712). The Survey of Employment Agencies and Personnel Suppliers provides financial and services statistics for the industry. Employment data from the Survey of Employment, Payrolls and Hours are available only for the combined industries of employment agencies and personnel suppliers. However, employment agencies are distinct from personnel suppliers. The former provide an intermediary service of matching job seekers with employers seeking workers, while the latter place their own

employees in other firms on temporary assignments.

Temporary or contract workers are those reporting a job with a specific end-date. The analysis of these workers is restricted to paid workers aged 15 to 64. Data are also available from the 1991 SWA; however, the definition of temporary or contract jobs for this survey was limited to jobs with a specified end-date within six months.

Hourly rate of pay and weekly earnings were derived from information collected by the Survey of Work

Arrangements. Both hourly rate of pay and weekly earnings apply to all paid workers. This includes both hourly paid and salaried workers.

Usual weekly hours of work at main job as defined by the Labour Force Survey prior to January 1997 were the number of hours worked by the respondent in a typical week, regardless of whether all these hours were paid.

Industry analysis in this study uses the 1980 Standard Industrial Classification. Some industry groups have been combined to facilitate the analysis. Primary

industries include agriculture, fishing, forestry and mining. Community, business and personal services also include miscellaneous services.

Occupation analysis in this study uses the 1980 Standard Occupational Classification. Some occupational groups have been combined to facilitate the analysis. Professional and technical occupations include natural and social sciences, religion, teaching, medicine, and artistic.

Table 1
Job permanency and non-permanent job type by region and province

	'000	All paid workers **	Workers with permanent jobs	Workers with non-permanent jobs		
				Total †	Temporary, term and contract	Casual and on-call
Canada		11,084.5	9,683.5	1,271.6	633.6	415.8
	%	100	87	11	6	4
Atlantic provinces	'000	787.2	627.7	153.8	59.5	49.7
	%	100	80	20	8	6
Newfoundland	'000	163.0	120.2	41.9	16.5	14.2 *
	%	100	74	26	10	9 *
Prince Edward Island	'000	45.3	35.6	9.2	2.9 *	2.6 *
	%	100	79	20	6 *	6 *
Nova Scotia	'000	320.8	272.1	47.1	19.5	14.6
	%	100	85	15	6	5
New Brunswick	'000	258.2	199.8	55.7	20.6	18.3
	%	100	77	22	8	7
Quebec	'000	2,670.5	2,277.6	369.3	192.0	113.5
	%	100	85	14	7	4
Ontario	'000	4,407.2	3,940.7	425.9	230.7	132.7
	%	100	89	10	5	3
Prairies	'000	1,812.6	1,599.0	192.5	87.4	72.7
	%	100	88	11	5	4
Manitoba	'000	418.7	371.2	41.0	19.2 *	15.8 *
	%	100	89	10	5 *	4 *
Saskatchewan	'000	326.0	285.9	36.5	18.0	12.6 *
	%	100	88	11	6	4 *
Alberta	'000	1,067.9	941.8	115.0	50.2	44.3
	%	100	88	11	5	4
British Columbia	'000	1,406.9	1,238.5	130.1	64.0	47.3
	%	100	88	9	5	3

Source: Survey of Work Arrangements, 1995

* Qualified data (see Data sources, concepts and definitions).

** Includes workers who did not state their job permanency status.

† Includes workers in temporary help services and in other types of non-permanent jobs not listed above, as well as those who did not state their type of non-permanent job.

Workers in non-permanent jobs are diverse

The increase in temporary and contract jobs, along with the growth in temporary help services, has raised concerns about a growing "disposable" workforce (Castro, 1993). The conventional image of workers in non-permanent jobs is that of young and low-skilled persons in clerical, service or manual jobs with limited opportunities for advancement and few benefits. However, applying such descriptors to all such jobs and workers masks their diversity.

Using cluster analysis, this study grouped together workers with common job and personal characteristics (see *Statistical techniques*). Four groups (or clusters) of workers with non-permanent jobs were identified on the basis of sex, age, level of education, marital status, job tenure, occupation group and weekly earnings. These clusters are of roughly equal size.

Cluster One workers are primarily young (15 to 24 years), single, male and students with short job tenure. These workers are broadly employed in sales; service; primary; transportation; and fabricating, material handling and processing occupations. On average, they have a low hourly rate of pay with less than full-time hours at the main job, and relatively low weekly earnings (Table 2).

Cluster Two consists mostly of married, adult (25 to 69 years) men. These workers are also broadly employed in managerial and administrative; natural sciences; teaching; primary; construction; transportation; and fabricating, machining, processing and other crafts occupations. They generally have longer job tenure than other workers with non-permanent jobs. Most people in this group also have a postsecondary certificate or university degree. Relatively high hourly rates of pay, longer work weeks, and high weekly earnings are characteristic of this group of workers.

Statistical techniques

Cluster analysis

Cluster analysis groups similar observations into a specified number of clusters. The use of four clusters in this study produced the most distinct groups of workers. This analysis is purely descriptive and is used simply to see how the data in the sample might be grouped.

The analysis was based on unweighted survey data. Each observation was included in only one cluster. The averages for hourly rate of pay, usual weekly hours worked, and weekly earnings by cluster (Table 2) were from weighted survey data.

Multiple linear regression

A linear regression model, $E(y) = \beta X$, was fit to the data to examine the relationship between a dependent variable, y , and a set of independent or explanatory variables, X . The set of parameters, β , was to be estimated from the data. In this analysis, the dependent variables were hourly rate of pay, weekly earnings, and usual hours worked.

When all explanatory variables are categorical, a special case of linear regression occurs, called analysis of variance (ANOVA). This forms the basis of this analysis. The explanatory variables investigated were permanent/non-permanent work status, age, sex, marital status, level of education, industry, occupation, job tenure, size of firm, contract coverage or union membership, school enrolment, province, and class of worker. As well, interactions involving permanent/non-permanent work status were included in the model. Hypothesis tests for the coefficients ($\hat{\beta}$) were conducted to determine whether the coefficient was not zero, that is, whether the independent variable explained a statistically significant proportion of the total variance of the dependent variable. In particular, the relationship between permanent and non-permanent work status and the dependent variables was evaluated.

Because of the intercorrelations among the explanatory variables, these coefficients must be interpreted within the context of the model. The explanatory variables were chosen on the basis of subject matter interest and statistical significance of their relationship with the dependent variables.

The exploratory analysis determined which variables of interest entered into the model at a significance level of $\alpha = 0.05$, and detected any problems arising from correlations among the explanatory variables. The regression coefficients were estimated and hypotheses tested, taking into account the stratified, multi-stage, clustered sampling design of the Survey of Work Arrangements. (Regression analysis procedures, which assume simple random sampling, may lead to invalid inferences.) For hourly rate of pay, weekly earnings, and usual hours worked, the coefficients for all variables appear in Table 7. The intercept is the baseline value of the dependent variable (hourly rate of pay, weekly earnings, or usual hours worked), that is, the mean value of the dependent variable when the independent variables are equal to the reference levels. The estimated regression coefficients ($\hat{\beta}$) for the independent categorical variables give the differential increase or decrease in the mean or expected value of the dependent variable for each level of the categorical variable versus the reference level.

For more information about techniques and software used, contact Barbara Chun at (613) 951-4687.

**Table 2
Attributes of non-permanent jobs by shared characteristics of workers ***

	Hourly rate of pay	Usual weekly hours	Weekly earnings **
Cluster † 1	\$ 9.40	25.0	\$ 258
2	17.28	35.8	625
3	11.16	22.7	259
4	12.85	25.5	350

Source: Survey of Work Arrangements, 1995

* Excludes seasonal workers and workers who did not describe their type of non-permanent job.

** See note 7.

† See Statistical techniques.

lower weekly earnings and fewer non-wage benefits than those offered by the other. However, job characteristics other than permanency may also influence these attributes.

Several factors may account for the discrepancies. For instance, the higher concentration of workers with permanent jobs in larger firms, and with union membership or collective agreement coverage, may account for some of their higher pay and hours worked (Table 5).

Occupation also makes a difference. Of all employees with permanent jobs, for example, 16% were in managerial and administrative positions in November 1995, compared with 6% of workers with non-permanent jobs.

Characteristics of workers make a difference

Workers in non-permanent jobs are more likely to be young, single or female, or to have shorter job tenure than workers in permanent jobs (Table 6 and Chart). These differences between workers could explain some of the differences between permanent and non-permanent jobs.

Job permanency is related to weekly hours and earnings

To see how job permanency is related to hourly rate of pay, hours worked

(Table 3). As a consequence, the average weekly earnings of workers with permanent jobs were 55% higher than those of workers with non-permanent jobs. As well, each major type of non-wage benefit was available to a higher percentage of workers in permanent jobs (Table 4).

These differences in job characteristics are cited by some theorists as evidence of a division of the labour market into segments with "good jobs" and "bad jobs" (Hipple and Stewart, 1996). They argue that one segment provides supplementary jobs with lower wage rates, fewer hours of work and, consequently,

Young, single, female students with short job tenure typify Cluster Three. Their principal occupations are in social sciences, clerical work, sales and service. A relatively low hourly rate of pay, shorter work week and lower weekly earnings are typical of this group.

Married and adult women with a postsecondary certificate or university degree, working in managerial and administrative, social sciences, teaching, medicine and health, clerical, or service occupations, form much of Cluster Four. Most of these workers have medium-to-long job tenure. Their moderately good weekly earnings are the result of relatively high hourly pay rates but less than full-time work.

Average earnings and hours worked are lower for adult women (Cluster Four) than for their male counterparts (Cluster Two). Weekly earnings for the two "younger" clusters (One and Three) are similar to one another.

How do permanent and non-permanent jobs compare?

Generally, higher rates of pay and more hours of work were offered with permanent jobs in November 1995

**Table 3
Average earnings and hours by job permanency**

	Paid workers with	
	Permanent jobs	Non-permanent jobs *
Hourly rate of pay (\$)	15.39	12.70
Usual weekly hours worked	36.9	27.2
Weekly earnings (\$)	579	374

Source: Survey of Work Arrangements, 1995

* Excludes seasonal workers and workers who did not describe their type of non-permanent job.

Table 4
Percentage of workers with non-wage benefits, and type of work schedule, by job permanency

	Paid workers with		%
	Permanent jobs	Non-permanent jobs *	
Employer-provided benefits			
Pension plan or group RRSP	55	20	
Supplementary health care plan	64	19	
Dental care plan	60	16	
Paid sick leave	62	20	
Paid vacation leave **	78	29	
Flexible time schedule	24	22	
Work schedule			
Regular daytime	70	52	
Regular evening, night or graveyard shift	7	9	
Rotating or split shift	11	10	
On-call or casual	1	11	
Irregular or other schedule	11	18	

Source: Survey of Work Arrangements, 1995

* Excludes seasonal workers and workers who did not describe their type of non-permanent job.

** See note 8.

and usual weekly pay, it is necessary to control for possible effects due to other job and personal characteristics. This study used three multiple linear regression models to obtain the difference (coefficient) between the expected value of each of the above for each level of the explanatory (independent) variables, and the reference level. (see *Statistical techniques*).

The following interpretation also identifies which other job and personal characteristics were found to have statistically significant relationships with these three dependent variables.

Hourly rate of pay

No statistically significant difference was found for average hourly rate of pay between workers with permanent

jobs and those with non-permanent jobs when other characteristics were held constant. These include age, sex, marital status, education, job tenure, firm size, class of worker, province, industry, occupation, and union membership or collective agreement coverage. The intercept term of \$9.64 (column 1 in Table 7) represents the expected value of hourly rate of pay for the reference group; each subsequent coefficient (β) represents the difference in hourly rate of pay relative to the reference level for each explanatory variable.

Usual number of weekly hours worked

Employees with permanent jobs usually had longer work weeks (roughly six more hours on average) than those with non-permanent jobs when all else

was equal. This difference held across the workforce, which means that for this dependent variable no interactions between independent variables were found. The expected number of hours worked for the reference group was around 29.

Weekly earnings

Although job permanency was not related to hourly rate of pay, it was related to weekly earnings, which were, in turn, a function of hourly rate of pay and number of hours worked. The expected value for the reference group was approximately \$282.

Average weekly earnings of workers in permanent and non-permanent jobs varied by workers' sex and education level. (In other words, these independent variables interacted.) The difference was greater for men than for women. When all other conditions were the same, high school-educated women with permanent jobs earned approximately \$34 more each week than those with non-permanent jobs. Among men, the gap increased by approximately \$61 to a cumulative difference of \$95. The difference between workers in permanent and non-permanent jobs was greater for university graduates than for those with any other level of education.

Related characteristics

A number of other job and personal characteristics had a statistically significant relationship with at least one of the dependent variables.

When all other conditions were equal, hourly rate of pay, weekly hours usually worked, and weekly earnings were each related to job tenure, occupation, industry, union or collective agreement coverage, local firm size, marital status and province. Public workers had higher rates of pay and weekly earnings than private sector workers. As expected, students with jobs had fewer weekly hours and lower weekly earnings than workers not in school. Higher average earnings and longer average hours were

Table 5
Job characteristics by job permanency

	Paid workers with	
	Permanent jobs	Non-permanent jobs *
		%
Union coverage		
Union member and/or covered by a collective agreement	39	31
Neither union member nor covered by a collective agreement	61	69
Class of worker		
Public employee	18	24
Private employee	82	76
Occupation		
Managerial and administrative	16	6
Professional and technical †	19	29
Clerical	17	16
Sales	8	10
Service	12	16
Primary ‡	2	--
Construction	4	5
Transportation	4	3 **
Fabricating, material handling, machining, processing and other crafts	18	13
Industry		
Primary and construction	7	7
Manufacturing	19	9
Transportation, communication and other utilities	8	5
Trade	17	17
Finance, insurance and real estate	6	3 **
Community, business and personal services	36	51
Public administration	7	8
Local firm size		
Under 20 employees	34	43
20 to 99 employees	33	28
100 to 500 employees	22	17
Over 500 employees	11	11

Source: Survey of Work Arrangements, 1995

* Excludes seasonal workers and workers who did not describe their type of non-permanent job.

** Qualified data (see Data sources, concepts and definitions).

† Natural sciences, social sciences, religion, teaching, medicine and health, and artistic occupations.

‡ Farming, fishing, forestry and mining.

also more likely for workers who were male, married, university-educated, in a managerial or administrative occupation, or in a long-term job.

Conclusion

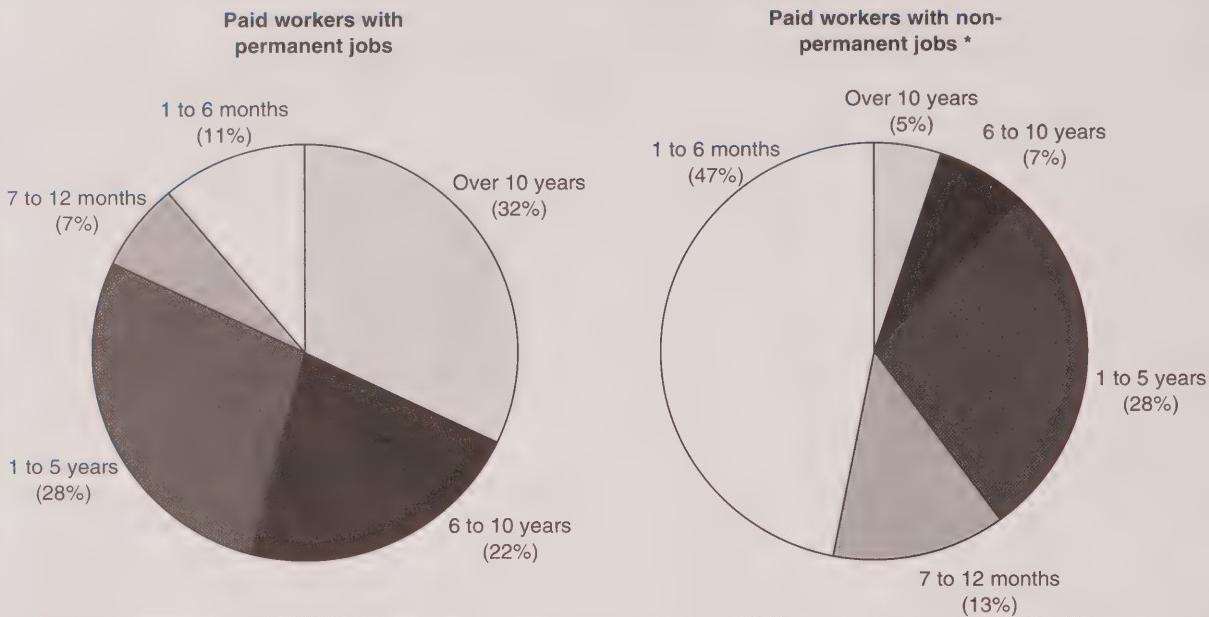
A growing number of workers have temporary jobs. Together with a thriving temporary help services industry and a polarization in job tenure, this suggests that new work arrangements are gaining ground.

According to the 1995 Survey of Work Arrangements, workers with non-permanent jobs included men and women of all ages and levels of education in many different occupations and industries. Generally, adult women in non-permanent jobs had lower averages than adult men for hourly rates of pay, usual number of weekly hours worked, and weekly earnings, while younger women and men had similar averages. Women tended to be concentrated in a narrower range of occupations than did men.

Job permanency does not seem to be related to an employee's hourly rate of pay, but rather to the number of hours usually worked in a week. Because workers in non-permanent jobs have fewer weekly hours of work, they have lower weekly earnings than workers in permanent jobs. The difference in weekly earnings is greater among men than women, and among university graduates. □

Chart

Workers with permanent jobs are more likely to have long job tenure.



Source: Survey of Work Arrangements, 1995

* Excludes seasonal workers and workers who did not describe their type of non-permanent job.

Contingent workers in the United States

The U.S. Bureau of Labor Statistics (BLS) defines contingent work as any job in which an individual does not have an explicit or implicit contract for long-term employment; it is a job structured to be of limited duration (Polivka, 1996). The BLS conducted a special supplementary survey on alternative work arrangements as part of the Current Population Survey (CPS) in February 1995. That survey provided the first measure of contingent workers in the United States using this definition. With various levels of restrictions on the definition, three measures of the contingent workforce were produced.

The broadest definition of contingent workers includes all employees who do not expect their job to last indefinitely, as well as self-employed or independent contractors who have worked as such for a year or less and who expect to continue working this way for only another year or less. According to this definition, six million Americans (5% of the U.S. workforce) are contingent workers. This broad definition is most similar to that of non-permanent jobs used in this study. However, while the BLS definition includes self-employed workers, the SWA does not.

A second BLS measure includes wage and salaried workers and self-employed and independent contractors who expect to be and have been in such employment for one year or less. Some 3% (3.4 million) of the American workforce fit this definition.

The most restrictive BLS definition includes only wage and salaried workers who expect to work in their current jobs for one year or less and who have worked for their current employer for one year or less. Under this definition, 2% or 2.7 million Americans are contingent workers.

Table 6
Selected characteristics of paid workers by job permanency

	Paid workers with	
	Permanent jobs	Non-permanent jobs *
%		
Men	53	43
Women	47	57
Age		
15 to 16	1	3 **
17 to 19	4	11
20 to 24	9	19
25 to 34	27	28
35 to 44	31	22
45 to 54	20	12
55 to 64	7	4
65 to 69	--	--
Highest level of education		
0 to 8 years	4	4
Some secondary	14	14
High school graduation	23	19
Some postsecondary	9	12
Postsecondary certificate or diploma	32	29
University degree	18	23
Marital status		
Married or common-law union	66	49
Single and never-married	26	46
Other	8	5
School enrolment		
Not enrolled	91	74
Enrolled full- or part-time	8	25
Not applicable †	--	--

Source: Survey of Work Arrangements, 1995

* Excludes seasonal workers and workers who did not describe their type of non-permanent job.

** Qualified data (see Data sources, concepts and definitions).

† Respondents aged 65 years or older were not asked for their enrolment status.

Notes

1 The GSS Cycle 4 was conducted in January and February of 1989, and Cycle 9, over all 12 months of 1994. Comparisons between the two may be affected by seasonal factors.

2 These industries included in Krahn's study are food, beverages and accommodation; recreation; and other personal services.

3 These are paid workers whose main job is not permanent. A paid worker's main job is the one with the greatest number of usual weekly hours of work. In this study, analysis of multiple jobholders is limited to the main job.

4 The redesigned Labour Force Survey began providing monthly estimates of permanent and non-permanent jobs and types of non-permanent jobs in January 1997. Its new data at the time of writing were for the early months of 1997, and thus were not seasonally comparable with the SWA estimates from November 1995.

5 This estimate is qualified (see *Data sources, concepts and definitions*).

6 Seasonal jobs have been an important form of work throughout Canada's labour market history. In 1995, roughly 182,000 or 2% of all paid workers had main jobs that were seasonal. Two out of three non-permanent main jobs in primary industries were seasonal, as were nearly half (47%) of all non-permanent jobs in construction and 39% in transportation. However, many of these employees have been able to count on having work at specific periods of the year. So this study concerns, instead, the more recent emergence of non-permanent main jobs that are not seasonal.

7 For individual workers, weekly earnings are the hourly rate of pay multiplied by the weekly hours of work. An estimated average is calculated for all workers who reported both their hourly rate and weekly hours worked. Simply multiplying the averages for hourly rate and hours worked will not necessarily yield the average for reported weekly earnings, however, as some workers did not report their rate of pay (recorded as "not stated").

8 Some workers who were expected to take pay in lieu of vacation time may have responded negatively to the relevant question.

■ References

Akyeampong, E.B. "The changing face of temporary help." *Perspectives on Labour and Income* (Statistics Canada, Catalogue no. 75-001-XPE) 1, no. 1 (Summer 1989): 43-49.

Castro, J. "Disposable workers." *Time* (April 19, 1993): 54-57.

Hamdani, D. "The temporary help service industry: its role, structure and growth." *Services Indicators* (Statistics Canada, Catalogue no. 63-016-XPB) 3, no. 1 (2nd quarter, 1996): 73-91.

Heisz, A. "Changes in job tenure." *Perspectives on Labour and Income* (Statistics Canada, Catalogue no. 75-001-XPE) 8, no. 4 (Winter 1996): 31-35.

Hipple, S. and J. Stewart. "Earnings and benefits of contingent and noncontingent workers." *Monthly Labor Review* 119, no. 10 (October 1996): 22-30.

Krahn, H. "Non-standard work on the rise." *Perspectives on Labour and Income* (Statistics Canada, Catalogue no. 75-001-XPE) 7, no. 4 (Winter 1995): 35-42.

Polivka, A.E. "Contingent and alternative work arrangements, defined." *Monthly Labor Review* 119, no. 10 (October 1996): 3-9.

Statistics Canada. *Survey of Work Arrangements, 1995: Microdata User's Guide*. Catalogue no. 71M0013GPE. Ottawa, [1995].

Table 7
Estimated regression coefficients ($\hat{\beta}$)

Variable	Hourly rate of pay	Usual hours worked	Weekly earnings
Intercept	\$ 9.64	28.55	\$ 281.80
Job permanency			
Permanent job	**	5.97	34.03
Reference level: non-permanent job			
Sex			
Male	2.65	4.92	116.89
Reference level: female			
Marital status			
Married and common-law	1.57	0.01 *	56.69
Other	1.12	1.01	53.21
Reference level: single and never-married			
Highest level of education			
0-8 years	-2.27	0.14 *	-60.05 *
Some secondary	-0.90	-0.82	16.11 *
Some postsecondary	0.55	-0.46 *	66.56
Postsecondary certificate or diploma	1.32	0.06 *	62.91
University degree	4.59	2.06	143.44
Reference level: high school graduation			
Industry			
Agriculture and other primary	3.18	3.86 *	170.33
Manufacturing	0.70	4.94	64.76
Construction	2.96	5.12	144.96
Transportation	1.41	2.24 *	85.05
Communication and other utilities	2.00	2.08 *	91.37
Trade	-0.92	-1.62 *	-30.64
Finance, insurance and real estate	1.10	3.52	42.82
Public administration	1.01	4.20	49.05
Reference level: business, community and personal services			
Occupation			
Managerial and administrative	3.69	3.71	193.52
Professional and technical †	2.99	0.79	107.53
Sales	0.12 *	0.32 *	12.86 *
Service	-1.28	-0.99	-43.37
Primary ‡	-1.37	4.26	-13.39 *
Construction	1.31	1.32	85.89
Transportation	-0.41 *	3.94	24.16 *
Fabricating, material handling, machining, processing and other crafts	0.28 *	1.07	23.89
Reference level: clerical			
Job tenure			
1 to 6 months	-0.61	-1.90	-40.03
7 to 12 months	-0.61	-0.27 *	-26.22
6 to 10 years	1.46	0.42 *	63.01
11 to 20 years	2.70	0.81	117.50
Over 20 years	3.74	1.07	166.78
Reference level: 1 to 5 years			

* Not significant at the $\alpha = .05$ level.

** In the initial estimation of the model, none of the levels for this variable was significant. The variable was excluded and the model was re-estimated.

† Natural sciences, social sciences, religion, teaching, medicine and health, and artistic occupations.

‡ Farming, fishing, forestry and mining.

Table 7
Estimated regression coefficients ($\hat{\beta}$) (concluded)

Variable	Hourly rate of pay	Usual hours worked	Weekly earnings
	\$		\$
Firm size (employees) at location where respondent works			
Under 20	-2.09	-0.59	-94.16
20 to 99	-1.24	0.11 *	-47.35
Over 500	1.37	0.25 *	51.56
<i>Reference level: 100 to 500</i>			
Age			
15 to 19	-0.85	-8.71	-71.08
20 to 24	-1.28	-1.96	-61.94
35 to 44	1.06	-0.80	33.75
45 to 54	1.58	-0.79	59.04
55 to 64	0.43 *	-2.07	-10.64 *
65 to 69	-1.09 *	-6.85	-154.55
<i>Reference level: 25 to 34</i>			
School enrolment			
Enrolled	**	-9.12	-92.45
<i>Reference level: not enrolled</i>			
Province			
Newfoundland	-2.36	1.11	-78.78
Prince Edward Island	-3.27	0.43 *	-118.98
Nova Scotia	-2.92	0.47 *	-107.39
New Brunswick	-2.55	1.15	-83.76
Quebec	-0.98	-0.88	-54.70
Manitoba	-2.10	-0.18 *	-81.50
Saskatchewan	-1.78	-0.55 *	-78.08
Alberta	-1.06	0.71	-30.71
British Columbia	0.95	-0.52 *	24.54
<i>Reference level: Ontario</i>			
Union membership or collective agreement coverage status			
"Yes"	0.65	-0.87	**
<i>Reference level: "no"</i>			
Class of worker			
Public sector employee	1.40	**	50.77
<i>Reference level: private sector employee</i>			
Interaction effects			
Permanent job, male	**	**	61.02
Permanent job, highest level of education			
0 to 8 years	**	**	-21.15 *
Some secondary	**	**	-53.18
Some postsecondary	**	**	-44.83 *
Postsecondary certificate or diploma	**	**	-10.47 *
University degree	**	**	83.29

Source: Survey of Work Arrangements

* Not significant at the $\alpha = .05$ level.

** In the initial estimation of the model, none of the levels for this variable was significant. The variable was excluded and the model was re-estimated.

Facing the future: Adults who go back to school

Dave Gower

Two decades ago, most Canadians finished their schooling as teenagers, or went on to college or university until their early twenties. They then entered adult life and left the classroom behind them.

Today, things are not so simple. When many of today's workers entered the workforce, the electric typewriter was state of the art. Today, spreadsheets and wordprocessors are standard office tools, and computerized controls and advanced communications are features of both factory work and construction. To keep up, an increasing proportion of Canadian adults have returned to school.

The number of adults (defined here as aged 25 to 64) attending school full time more than tripled between October 1976 and October 1996 (107,000 to 344,000).¹ This increase vastly outpaced the rate of growth in the adult population itself. As a consequence, the percentage of Canadian adults attending school full time more than doubled, from 1.0% to 2.1%. Over time, the cumulative number of adults upgrading their education would be far higher, although the data to calculate this effect are not readily available.

Adults can upgrade their skills and knowledge in many different ways. They can take in-house training provided by the employer. They can take part-time courses at night or on weekends.² Or they can return to school full time, which is the subject of this article (see *About the data*).

Full-time studies require a commitment of both time and money, often in short supply, especially when family

obligations vie for attention. Many people may see no other way to obtain future employment, however.

This study addresses the following questions: Are the programs related to potential employment? Is adult education in some sense a substitute for unemployment, and does it affect the measured level of unemployment? Is adult education being

pursued in regions with high unemployment? Does it help disadvantaged people "come from behind," or is it a mechanism for educated workers to maintain their advantage? Finally, do family responsibilities and the resulting financial need increase or decrease the likelihood of going back to school?

About the data

Data sources

The monthly Labour Force Survey (LFS) asks respondents whether they attended school during the reference week. The interviewer's instructions specify that persons should be included if they were taking credit courses in a recognized educational institution, such as a high school, vocational college or university. People who attended school "full-time"³ are the subject of this study.

The Adult Education and Training Survey (AETS), a supplement to the regular LFS, has been sponsored by Human Resources Development Canada (HRDC) a number of times over the years. The data used here are derived from the survey conducted in January 1994, which asked about activities during 1993. An extensive report on the findings was recently published (Statistics Canada, 1997).

This supplement asked many questions, including type of course, reason for enrolment, and source of funding. It covered all people aged 17 to 64 who said they took any training. For this study, tabulations were run using a subset of the respondents to the supplement. This subset consisted of all those who reported on the regular LFS questionnaire that they were full-time students. This serves to isolate those respondents to the AETS who are in this study.

Age cut-off

The federal *Adult Occupational Training Act* of 1967 defined an adult returning to school as anyone who was one year past the normal school leaving age and who had been out of school for at least a year. This implies a minimum age of 19 or 20.

This age was considered too low for this study, for two reasons. First, it would include most people who proceed directly to university and graduate in their early twenties. Second, it would conflict with Statistics Canada's usual definition of adult (aged 25 and over).

For both these reasons, age 25 is used here as the lower cut-off. This being said, many people who have been out of school for some time and have returned and left again before age 25 will be lost. However, the advantage of this trade-off is perhaps a "tighter" definition of the term "adult." In contrast, some people who should not be captured will be included; for example, university graduate students aged 25 and over who have been in the school system continuously and thus are not, strictly speaking, returning to school.

Because the LFS does not ask about school attendance of people older than 64, this age is the maximum for "adult student." While there are anecdotal reports of increasing numbers of seniors taking university and other programs, it is unlikely that many would apply their education in future jobs.

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Major increases since the 1970s

Over the past two decades, going back to school has greatly increased in popularity, especially among women. In 1976, men were close to one-and-a-half times more likely than women to be attending school full time. By the start of the 1990s, however, around 20,000 more women than men were in school (Chart A).

This shift may be related to the steady rise in women's labour force participation rates over the period. Their attendance trends appear more volatile than men's, however (witness the sharp but temporary drops in 1984 and 1990), and by the mid-1990s men and women were found in the classroom in roughly equal numbers.

Most adult education is job-related

In January 1994, the Adult Education and Training Survey (AETS) asked people taking courses at any time during 1993 about the main reason for doing so.

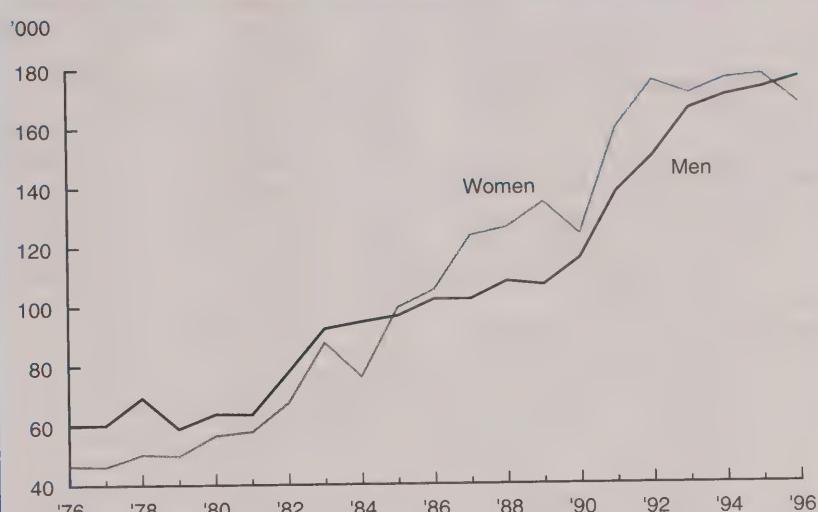
The 346,000 full-time students⁴ aged 25 to 64 who participated in the survey reported taking 429,000 separate programs or courses. Of these, the main reason given in 83% of the cases was "present or future job." "Personal interest" was the reason in another 15%.

Improving one's work prospects is clearly the pervasive and dominant reason for going back to school full time. At least 76% of respondents from all subgroups gave a positive response to the question about job-related motivation. Over 90% of men over 40 did so (Table 1).

Younger adults were much more likely to go back to school full time: those in their late twenties were more than twice as likely as people in their early thirties to do so (6.7% versus 3.0%), and ten times as likely as people aged 40 to 64 (0.7%) (Table 2). These findings are more marked for

Chart A

Since the mid-1980s, adult women attending school full time have generally outnumbered men.



Source: Labour Force Survey, average of Octobers (see note 1)

Full-time attendance is the exception

Adults who go back to school full time are a select few. While many adults take some form of training or education, most do not commit to a full-time program.

According to the Adult Education and Training Survey, 5.8 million persons aged 17 and over attended an educational course or program in 1993 (this figure excluded young people who were regular full-time students). Some 4.9 million of these were aged 25 and over (Statistics Canada, 1997).

Regardless of their age or employment status, the bulk of adults' studies were related to work rather than personal interest (by a ratio of 5:3). Of those who took job-related training, 2.9 million or 70% received some assistance from their employer. Of the 5.8 million people taking adult education, 4.6 million were working.

These three facts together indicate that job-related training is very common. In contrast, the number of adult students measured in the Labour Force Survey is much smaller. In October 1993, 820,000 persons aged 25 to 64 went to school, 483,000 on a part-time

basis, and 337,000, full-time.

This difference occurs for two reasons. One is that the AETS measures training and education at any time during 1993, whereas the LFS records activity during a particular week. At present, long-term information on the duration of training activity is unavailable. This gap, among others, will be filled eventually by longitudinal data from the Survey of Labour and Income Dynamics.

The second reason is that people who attend training during working hours are unlikely, when interviewed by the LFS, to say they are attending school. People who respond positively to the LFS question are a subset of all adults taking training. And those who go to school full time are only a minority of that subset.

Among adult students, going to school full time is gaining in popularity. During the late 1970s and early 1980s, well over two-thirds of adult students were attending school part time. By October 1996, the ratio was approaching one-half.

Table 1

Number of programs and courses, and proportion taken for job-related reasons, by students' age, sex and education *

	Both sexes		Men		Women	
	'000	%	'000	%	'000	%
Aged 25 to 64	429	83	210	85	218	81
Aged 25 to 29	159	86	91	87	67	85
Aged 30 to 34	133	79	74	80	59	76
Aged 35 to 39	52	81	10	85	42	81
Aged 40 to 64	85	86	35	91	50	82
Grades 0 to 8 / some high school	43	83	14	85	29	81
High school graduation	63	82	17	87	46	81
Some postsecondary Postsecondary certificate or diploma	96	86	55	87	41	86
University degree	129	82	79	86	50	77
	97	82	45	82	53	81

Source: Adult Education and Training Survey, 1994

* Education refers to level already acquired, not to current studies.

men than for women. In their late twenties, a moderately higher proportion of men were in school (7.1% ver-

sus 6.3%); by their late thirties, a higher proportion of women had gone back (2.3% versus 1.8%).

While this could be related to women's preparation for the workforce after staying home to raise children, the data do not support this theory. Women who had "not worked in the past year" – which would apply to most who had been caring for children full time for an extended period – were not as likely to go back to school full time as were women with recent work histories, regardless of age. This pattern was the opposite of men's.

Long-term joblessness not a factor

Have adults who return to school been out of work for some time? To address this question rigorously would require longitudinal data not currently available. At present, the data give information only on employment in the past year. It is not known when these people started their studies, nor, consequently, how long they

Table 2

Number of adults and proportion attending school full time, by age, sex and employment status

	Number of adults				Adults attending school full time			
			Not employed				Not employed	
	Total	Employed	Worked past year	Did not work past year	Total	Employed	Worked past year	Did not work past year
'000								
Both sexes								%
Aged 25 to 64	15,594	11,195	1,296	3,104	2.2	0.8	8.8	4.5
Aged 25 to 29	2,259	1,687	270	302	6.7	2.8	20.9	16.1
Aged 30 to 34	2,599	1,993	236	370	3.0	0.9	11.0	9.4
Aged 35 to 39	2,468	1,928	195	344	2.1	0.5	7.8	7.3
Aged 40 to 64	8,269	5,585	596	2,087	0.7	0.2	2.8	1.5
Men								
Aged 25 to 64	7,787	6,194	639	954	2.1	0.7	9.5	6.5
Aged 25 to 29	1,132	908	139	85	7.1	2.8	23.1	26.6
Aged 30 to 34	1,306	1,100	112	93	3.0	0.9	12.3	15.9
Aged 35 to 39	1,238	1,052	94	92	1.8	0.4	7.4	12.2
Aged 40 to 64	4,111	3,134	293	683	0.6	0.2	2.7	1.9
Women								
Aged 25 to 64	7,807	5,001	657	2,150	2.2	0.9	8.1	3.6
Aged 25 to 29	1,127	780	130	217	6.3	2.8	18.5	11.9
Aged 30 to 34	1,293	894	123	277	3.1	0.9	9.8	7.2
Aged 35 to 39	1,230	877	101	252	2.3	0.7	8.2	5.5
Aged 40 to 64	4,157	2,451	302	1,404	0.8	0.3	2.9	1.3

Source: Labour Force Survey, average of Octobers, 1992 to 1996

might have been jobless before returning to school. However, if being out of work for long periods of time gives people a strong push toward school, those who had not worked in the past year would be expected to have higher school attendance rates than those who had.

One subset of those who worked in the past year is the group currently employed. School attendance rates of people with jobs are very low (less than 1%; Table 2), undoubtedly because full-time studies demand considerable attention. As evidence of this, almost three-quarters of employed adult students work part time. Put another way, only about 7% of full-time adult students reported holding down a full-time job while going to school. Even this may be an overstatement. Some of these cases may reflect co-operative arrangements in which work and study are combined. In others, people may have been on educational leave.⁵

To investigate the relationship between length of joblessness and going back to school, it is better to concentrate on those who are not currently employed, comparing those who had not worked at any time in the past year with those who had. Contrary to expectations, only around 5% of all those who had not worked in the past year went back to school, compared with almost 9% of those not currently working but who had worked in the past year.

If age, sex and education are considered, this difference is substantially reduced, though still evident (see Appendix). For whatever reason, adult education becomes less likely with prolonged joblessness.

Effect on unemployment potentially important

If past employment history does not seem to correlate with the decision to go back to school, does the other widely used measure of labour market difficulty: unemployment?

There are two aspects to this question. One has to do with the way Statistics Canada defines unemployment and school attendance. This raises the question of whether unemployment is "hiding" among the ranks of adult students.

Another issue concerns adult education's effectiveness as a defence against unemployment in a "real" rather than statistical sense. For example, if adult students came from segments of the population that already had low unemployment rates, would adult education make much difference in the battle against unemployment?

Statistics Canada defines unemployment in accordance with standard international conventions. Accordingly, full-time students are considered unemployed only if they are looking for a part-time job, and very few are. In October 1996, for example, only 9,000 full-time adult students were officially unemployed. Therefore, full-time student status drastically reduces the chance of a person's being counted among the unemployed.

What would the potential effect on unemployment be if full-time students were suddenly to re-enter the labour force? In the 1990s, the number of adult students was around one-third the size of the official unemployment count of people aged 25 to 64. Not all would join the ranks of the unemployed upon leaving the classroom, but the effect could nevertheless be substantial.

Trends are only roughly related

Have adult education rates followed unemployment trends over time, or have they moved in different directions? The relationship may give an idea of whether adult education fluctuates in response to economic conditions.

At the onset of the recessions of the early 1980s and 1990s, unemployment and adult education increased

simultaneously. However, this does not necessarily mean that the two trends are closely related. For one thing, unemployment numbers rose much more than student totals. Perhaps more significantly, unemployment dropped from 1982 to 1989 and from 1992 to 1995, but the number of full-time adult students continued to climb.

It would be instructive to ask whether adult education seems to be more common where most needed; that is, in groups and regions with high unemployment.

Adult students and provincial unemployment rates

Since by definition one cannot easily be a full-time student *and* unemployed, an inverse relationship might be expected between the two; that is, the more adult students, the fewer unemployed. On the other hand, if adults return to school because of high unemployment, a positive correlation might exist. One appropriate statistic to compare with the percentage of adult students would be provincial unemployment rates for this age group (Chart B).

In general, with the exception of Newfoundland, and to a lesser degree Quebec, provinces with higher unemployment rates tend to have lower percentages of full-time students.

This is not to say that unemployment is negatively correlated with adult education, merely that other, more important factors are probably at play. Further analysis might involve an examination of the adult education programs and policies of the various provinces.

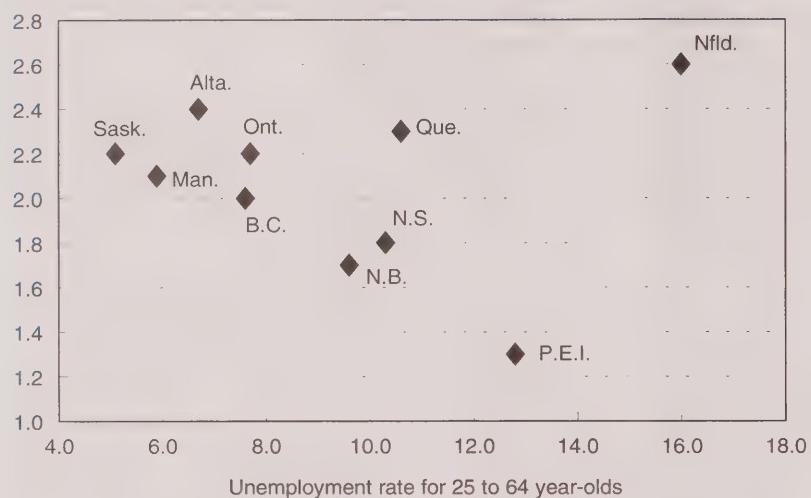
Coming from behind?

Up to this point, the focus has been on the relationship between unemployment and adult education. But the data can also be used to address adult education as a vehicle for reducing economic disadvantage. Are adult

Chart B

Provinces with higher unemployment rates tend to have lower percentages of full-time adult students.

Full-time students aged 25 to 64
(%)



Source: Labour Force Survey, average of Octobers, 1992 to 1996

students from relatively privileged groups simply improving their position even further?

Up to the end of the 1980s, adult students tended to have above-average levels of schooling (Haggar-Guénette, 1991). This implies that adult education was not a means of reducing economic inequality; if anything, it may have had the opposite effect, by polarizing educational attainment.

Because the Labour Force Survey fundamentally altered its education classification in January 1990 (Gower, 1993), direct comparison of current and earlier data is difficult. However, the basic pattern observed earlier seems to be applicable today.

Adults with a postsecondary certificate or diploma have lower school attendance rates than others with some form of post high school qualification. One reason may be that many of the latter have trades certificates or apprenticeship qualifications, rather than academic backgrounds.

Adult students aged 25 to 29 with university graduation account for less than one-sixth of adult students (53,000 out of 341,000). Many of these are undoubtedly in graduate studies; some may never have left the academic setting (except perhaps for summer jobs), so would not really fit the category of "going back." Because the available data cannot measure this, interpretation of this subgroup is difficult.

Adult students are usually high school graduates

Adults who did not complete high school are more likely than other groups to be economically disadvantaged. Their unemployment rate is nearly three times that of university graduates (12.5% versus 4.8%) (Table 3). Furthermore, the percentage of high school leavers who return to school full time is much lower than that of graduates. This finding resembles the patterns for on-the-job training (de Brouker, 1997). It appears that people who leave school while young

are least likely to upgrade their qualifications later.

The difference is substantially greater among men than women. Men who do not finish high school are much less likely to return as adults than those who graduate (0.8% versus 1.3%). In contrast, women who return do so whether they finished high school or not (1.2%).

Why high school graduation should affect men's decisions to go back to school is not immediately obvious. Different occupation mixes might explain some of the difference between the sexes.⁶ Perhaps female leavers are simply more willing to "start over." Regardless of the reason, during the 1990s less than 1% of male leavers were taking full-time studies.

Family situation makes a difference

On the one hand, people with children have an obvious incentive to upgrade their income earning skills. On the other hand, family responsibilities may reduce their freedom to take such a step.

Among adults living with partners, having children seems to discourage a return to school. This is true for both men and women up to age 40 (Table 4). After that age, the relationship changes: those with children are more likely to return to school than are people with partners but without children under 18. However, the children of these older adults are probably older themselves, so child-care arrangements are not likely a consideration. In addition, people without children are more likely to be at the upper end of the 40-to-64 age range, which may explain their decision not to pursue full-time studies.

One group stands out: young women who are single parents. One in 10 female single parents under age 30 goes back to school (10.4%), more than young adults as a whole (6.7%), and over four times the rate of young mothers with husbands present (2.4%).

Table 3
Unemployment rates (UR), and proportion of full-time students, by age, sex and education

	Both sexes		Men		Women	
	UR	FT students	UR	FT students	UR	FT students
	%	%	%	%	%	%
Aged 25 to 64	8.4	2.2	8.3	2.1	8.6	2.2
Grades 0 to 8 / some high school	12.5	1.0	11.8	0.8	13.5	1.2
High school graduate	8.6	1.3	8.2	1.3	8.9	1.2
Some postsecondary	9.5	6.3	9.7	6.3	9.2	6.4
Postsecondary certificate or diploma	7.7	1.9	7.8	1.9	7.6	1.8
University degree	4.8	3.9	4.7	3.7	4.9	4.1
Aged 25 to 29	10.8	6.7	11.4	7.1	10.1	6.3
Grades 0 to 8 / some high school	19.2	3.5	17.6	2.8	22.2	4.4
High school graduate	11.9	3.2	11.5	3.3	12.4	3.1
Some postsecondary	12.3	14.4	14.0	15.2	10.2	13.7
Postsecondary certificate or diploma	9.4	4.8	10.3	5.5	8.5	4.1
University degree	6.0	12.0	6.3	13.3	5.8	10.8
Aged 30 to 34	9.3	3.0	9.0	3.0	9.7	3.1
Grades 0 to 8 / some high school	16.4	1.9	14.8	1.5	19.4	2.4
High school graduate	10.0	1.9	9.7	1.7	10.4	2.1
Some postsecondary	9.8	7.6	9.5	7.5	10.2	7.8
Postsecondary certificate or diploma	7.9	2.3	7.4	2.3	8.5	2.4
University degree	4.9	4.8	5.0	5.3	4.8	4.2
Aged 35 to 39	8.5	2.1	8.3	1.8	8.7	2.3
Grades 0 to 8 / some high school	13.8	1.6	13.0	1.3	15.0	2.0
High school graduate	8.3	1.1	7.9	--	8.7	1.3
Some postsecondary	9.8	5.3	10.4	4.9	9.1	5.7
Postsecondary certificate or diploma	7.4	1.7	7.0	1.5	7.9	2.0
University degree	5.2	2.9	5.5	2.7	4.8	3.0
Aged 40 to 64	7.4	0.7	7.1	0.6	7.6	0.8
Grades 0 to 8 / some high school	10.1	0.4	9.7	0.3	10.8	0.5
High school graduate	7.0	0.5	6.5	0.6	7.5	0.4
Some postsecondary	7.8	2.2	7.3	1.7	8.3	2.7
Postsecondary certificate or diploma	7.1	0.7	7.4	0.6	6.8	0.8
University degree	4.1	1.1	3.9	0.8	4.5	1.4

Source: Labour Force Survey, average of Octobers, 1992 to 1996

Note: Education refers to level already acquired, not to current studies.

It is not difficult to understand why young female single parents resume full-time studies. Their unemployment rate is 27.1%, by far the highest of all the groups studied. This finding is even more dramatic, given the dampening effect on the unemployment rate of their high full-time school attendance rates.

Summary

Adult education is a growing trend, particularly in the past decade. Most of it seems to be motivated by a desire to improve job prospects.

The link between unemployment experience and going back to school is not strong. This is true for various population subgroups, particularly older men with lower education. Also, except for Newfoundland, provinces with relatively high unemployment do not have high percentages of adult students. This is not to say that adult education is completely unrelated to unemployment, simply that it is not concentrated in the same segments of society.

Adult education does not seem to be the chosen means for reducing economic inequality. People who go back to school are largely already in favourable economic circumstances. Also, with the notable exception of young single mothers, the presence of young children seems to be a deterrent to full-time schooling.

Overall, many of the people who appear to have the greatest need for improved economic prospects are not participating in adult education. □

Table 4
Unemployment rates (UR), and proportion of full-time students, by age, sex and family composition

	Men			Women		
	Total	UR	FT	Total	UR	FT
			students			%
	'000		%	'000		%
Aged 25 to 64	7,787	8.3	2.1	7,807	8.6	2.2
Husband-wife family, children < age 18	3,048	6.4	1.4	3,012	8.4	1.6
Husband-wife family, no children	2,901	7.4	1.9	2,904	7.2	1.7
Single-parent family, children < age 18	108	15.5	3.2	524	16.4	6.2
All other	1,730	13.3	3.8	1,366	8.8	3.3
Aged 25 to 29	1,132	11.4	7.1	1,127	10.1	6.3
Husband-wife family, children < age 18	283	10.7	3.8	419	11.6	2.4
Husband-wife family, no children	449	9.8	7.5	391	7.5	7.3
Single-parent family, children < age 18	9	--	--	88	27.1	10.4
All other	392	13.5	9.0	229	8.9	10.3
Aged 30 to 34	1,306	9.0	3.0	1,293	9.7	3.1
Husband-wife family, children < age 18	611	7.1	1.8	748	9.7	1.8
Husband-wife family, no children	324	9.1	3.4	254	7.2	3.6
Single-parent family, children < age 18	14	--	--	118	20.8	7.7
All other	357	12.1	4.5	173	7.9	4.9
Aged 35 to 39	1,238	8.3	1.8	1,230	8.7	2.3
Husband-wife family, children < age 18	745	6.0	1.4	783	7.5	1.6
Husband-wife family, no children	200	9.3	2.0	174	8.2	2.0
Single-parent family, children < age 18	25	16.3	--	133	15.3	6.1
All other	268	13.9	2.7	139	9.7	3.0
Aged 40 to 64	4,111	7.1	0.6	4,157	7.6	0.8
Husband-wife family, children < age 18	1,409	5.4	0.8	1,062	7.0	1.0
Husband-wife family, no children	1,928	6.2	0.4	2,085	7.1	0.4
Single-parent family, children < age 18	60	12.6	--	185	11.3	3.2
All other	714	13.6	0.9	825	8.7	1.0

Source: Labour Force Survey, average of Octobers, 1992 to 1996

Notes

1 October was chosen since it seems to have had the highest and least volatile levels of full-time school attendance over the past two decades.

2 For a look at adults' enrolment in part-time credit courses, see Haggard-Guénette, 1991.

3 Respondents were asked to report student status based on the institution's definition, not their own.

4 In this study, the data from the 1994 AETS (conducted in January) refer only to those people who stated on the regular LFS that they were full-time students. The LFS data, used elsewhere in the article, refer to October of various years.

5 About a quarter of adult students working full time reported having a job from which they were absent. Although education leave and co-op student status are not included in the LFS as reasons for being absent from work, it is likely that a large proportion of this group had been excused from their obligations. The remainder, however, seem to be putting in the hours.

6 The LFS does not produce data on the occupational history of an individual, merely on the occupation of either the current or the most recent job in the preceding year, if any. For most purposes, this is useful. For full-time students, it is more problematic. Some may have part-time jobs, and others may have gone back to school because they could no longer find work in their previous field. In either case, the last occupation may not reflect past jobs.

References

de Broucker, P. "Job-related education and training - who has access?" *Education Quarterly Review* (Statistics Canada, Catalogue no. 81-003-XPB) 4, no. 1 (Spring 1997): 10-31.

Haggard-Guénette, C. "Lifelong learning: Who goes back to school?" *Perspectives on Labour and Income* (Statistics Canada, Catalogue no. 75-001-XPE) 3, no. 4 (Winter 1991): 24-30.

Gower, D. *The Impact of the 1990 Changes to the Education Questions on the Labour Force Survey*. Staff report, Labour and Household Surveys Analysis Division. Ottawa: Statistics Canada, 1993.

Statistics Canada. *Adult Education and Training in Canada: Report of the 1994 Adult Education and Training Survey*. Prepared under contract to Human Resources Development Canada. Ottawa: Public Works and Government Services, 1997.

Appendix

Number of adults and proportion attending school full time, by age, sex, education and employment status

	Number of adults '000	Adults attending school full time			
		Not employed			
		Total	Employed	Worked past year	Did not work past year
Both sexes					
Aged 25 to 64	15,594	2.2	0.8	8.8	4.5
Grades 0 to 8 / some high school	3,962	1.0	0.1	2.6	1.9
High school graduate	3,357	1.3	0.3	5.2	3.3
Some postsecondary	1,175	6.3	2.0	21.7	15.6
Postsecondary certificate or diploma	4,501	1.9	0.6	8.8	5.2
University degree	2,600	3.9	1.9	20.2	12.2
Aged 25 to 29	2,259	6.7	2.8	20.9	16.1
Grades 0 to 8 / some high school	349	3.5	--	6.4	7.9
High school graduate	488	3.2	1.0	10.7	8.5
Some postsecondary	243	14.4	5.8	37.4	33.6
Postsecondary certificate or diploma	733	4.8	1.8	17.3	16.9
University degree	446	12.0	6.0	43.2	42.0
Aged 30 to 39	5,067	2.6	0.7	9.5	8.4
Grades 0 to 8 / some high school	966	1.8	--	3.9	4.5
High school graduate	1,201	1.5	--	6.3	5.5
Some postsecondary	427	6.5	1.7	20.1	21.3
Postsecondary certificate or diploma	1,594	2.0	0.5	10.0	9.0
University degree	880	3.9	1.8	18.7	16.9
Aged 40 to 64	8,269	0.7	0.2	2.8	1.5
Grades 0 to 8 / some high school	2,648	0.4	--	--	0.7
High school graduate	1,668	0.5	--	--	1.3
Some postsecondary	505	2.2	--	8.7	6.0
Postsecondary certificate or diploma	2,174	0.7	0.2	3.5	1.8
University degree	1,274	1.1	0.4	5.3	4.1
Men					
Aged 25 to 64	7,787	2.1	0.7	9.5	6.5
Grades 0 to 8 / some high school	2,003	0.8	--	2.7	2.2
High school graduate	1,524	1.3	--	5.9	6.3
Some postsecondary	573	6.3	2.0	23.9	20.3
Postsecondary certificate or diploma	2,274	1.9	0.5	10.0	7.3
University degree	1,413	3.7	1.7	21.3	17.2
Women					
Aged 25 to 64	7,807	2.2	0.9	8.1	3.6
Grades 0 to 8 / some high school	1,959	1.2	--	2.6	1.8
High school graduate	1,833	1.2	0.3	4.6	2.4
Some postsecondary	601	6.4	2.0	19.6	13.5
Postsecondary certificate or diploma	2,227	1.8	0.6	7.7	4.3
University degree	1,187	4.1	2.1	19.2	9.1

Source: Labour Force Survey, average of Octobers, 1992 to 1996.

Note: Education refers to level already acquired, not to current studies.

Intergenerational equity in Canada

Report on a conference

Since 1951, the proportion of Canadians aged 65 and over has grown. The growth in this group, coupled with a gradual decline in the group aged 19 and under, will likely continue well into the next century (see *Demographic trends*).

This demographic circumstance affects relations between older, younger and future generations. For example, in the 1990s older workers are worried about financing their impending retirement. Younger workers are concerned not only about financing their own retirement but also about supporting their predecessors'. Young people entering the labour force are having a difficult time finding full-time or lasting employment. Labour market trends such as declining labour force participation or the polarization of job tenure and of working hours are generally considered another aspect of this problem. These diminishing opportunities could have cumulative effects on the ability of younger generations to support themselves and their families.

The theme of intergenerational equity touches a variety of these social and economic issues, from the transfer of wealth between generations to the direction of these transfers and the relative status of persons in successive generations.

These concerns were the focus of "Intergenerational Equity in Canada," a conference co-sponsored by Statistics Canada and Human Resources Development Canada, and held at Statistics Canada in Ottawa on February 20 and 21, 1997. The conference was organized around eight principal topics and one consultation, which

provide the section titles for this report. (See Appendix for a complete list of presentations and presenters.) What follows is a selection of highlights from the conference sessions.

Impact of government programs across generations

What are the intergenerational effects of government expenditure and taxation decisions? Chantal Hicks' study suggested that the Canadian tax and transfer system aids seniors most, although children also benefit through education transfers.

Brian Murphy affirmed the benefit to the elderly, adding that between 1984 and 1994 those aged 15 to 24 also experienced slight increases in net transfers (government cash transfers less income and payroll taxes). Individuals with low incomes were disproportionately represented in these two age groups. Those aged 40 to 59 saw large decreases in net transfers.

Generational accounting

The technique of generational accounting measures the lifetime net tax burden of present and future generations while anticipating changes to fiscal policy and demographics. It is a long-term measure of fiscal policy preferred by some experts over annual deficit measures.

Philip Oreopoulos presented findings from a study that applied generational accounting to Canadian fiscal policy. While the analysis determined Canada's fiscal policy to be nearing a state of sustainability, the authors cautioned against using generational accounting to draw conclusions about intergenerational equity.

Chris Matier employed simulation models to consider the social welfare implications of reducing transfers

from future to current generations. The study found that the effect on current generations varied with how quickly and by what method (lump-sum or wage/tax mixes) this reduction was implemented.

Similarly, Marcel Mérette discussed the effects of government debt reduction across generations, focusing on growth in human capital rather than gross domestic product. This study suggested that young and future generations would benefit most if debt reduction were achieved through taxes on wages or consumption.

Summarizing initial analytical results of a sequence of overlapping birth cohorts, Michael Wolfson noted that cohorts born before 1940 were net beneficiaries of the government taxes and expenditures under study. Redistribution tends to be from men to women, and about half of the population are net gainers. He also noted that inequalities between generations could not be accurately assessed without an understanding of the inequalities within generations.

Structure of labour markets and their interaction with social programs

Garnett Picot addressed the factors underlying low income trends for four generations: children (aged 0 to 14), young adults (25 to 34), the older working-age population (45 to 54) and the elderly (65 and over). Low income is dependent on individual earnings, transfers and family composition. The elderly saw marked decreases in low income rates between the early 1980s and 1995. On the other hand, the relative stability of the other three generations masked an increased reliance on transfers as an income source in the 1980s. Also hidden were the dramatic changes in the Canadian family since

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Upcoming publications

Two books are planned for publication. The first will address the use of generational accounting in the Canadian context. The effect of government programs on different generations, the burden this may place on future generations, and the implications for economic growth and inequality are all examined. The book also addresses the limitations of generational accounting as a tool for setting and implementing fiscal policy, and the need for better statistics to help envision the legacy that will be left to future generations.

It is increasingly suggested that the current generation of young Canadians will not be as well-off as their parents. The second book will examine this theme by focusing on how families and

labour markets influence the well-being of children and their long-term prospects as adults. Among the issues addressed are the effect of low income during childhood on future earnings during adulthood, the relationship between the income and education of parents and the health and educational attainment of their children, and the effect of parental divorce on the marital and fertility choices that children eventually make. The declining economic status of the young (relative to older) generations is also documented.

Both books are slated for publication in autumn 1997. For more information on these books or the conference contact Miles Corak at (613) 951-9047; Internet: coramil@statcan.ca.

the early 1970s. Because of these demographic changes, the incidence of families with low incomes declined until the early 1990s, then grew, despite transfers.

The declining participation of young men in the workforce was the focus of René Morissette's discussion. The 1990s have seen high youth unemployment, increasing inequality in the distribution of earnings and a widening income gap between younger and older workers. Information from the Labour Force Survey and from income tax data was used to determine, among other conclusions, that since the early 1980s young male workers have been moving more slowly into better paying jobs than had previous cohorts. Noted also were relative decreases in rates of unionization and pension coverage for this group.

Ross Finnie concluded this session with a discussion of the shortfall between market income and low income cutoffs for families between 1982 and 1993. Based on Statistics Canada's Longitudinal Administrative Databank, the study showed that spells of low income, for example, have

lengthened while the distribution of family incomes has been polarizing.

Meaning and measurement of intergenerational equity (Panel discussion)

Laurence Kotlikoff talked about the prevalence of generational accounting and its application in 16 countries, much of this with government participation. In his opinion, agencies that are at arm's length from their governments may be the best organizations to carry out generational accounting. The technique does have deficiencies. For example, it lacks general feedbacks and adjustments for unexpected future shifts. But it does provide a way to understand intergenerational income redistribution and a country's patterns of saving. He encouraged the Canadian government to adopt generational accounting.

Arguing against this technique, Lars Osberg said that income and income distribution mattered, both between and within generations. Generational accounting is fundamentally about the split in expenditure between public and private. Public

policy will help to define the debate; unbiased statistics will inform it. Most important to the discussion is the transfer of resources within families, a component often ignored in generational accounting.

Focusing as well on generational accounting, John Helliwell contended that six elements would summarize the legacy to be passed from one generation to the next, and that many of these are now missing in the standard generational accounting framework: fiscal deficit and debt; constructed capital (for example, public buildings), infrastructure and knowledge (research and development); human capital (physical and mental health and education); natural resources and physical environment; the institutional environment (for example, legal and welfare systems); and social capital (shared values and activities). Important to these considerations is who accumulates and distributes these assets and liabilities. The list would include governments, families, and multinational agencies. He suggested that both good and bad effects between generations might also be experienced within generations.

Intergenerational income mobility

Nicole Fortin and Sophie Lefebvre opened the discussion on intergenerational mobility with an investigation into the private transmission of economic status from fathers to their sons and daughters. According to data from the General Social Surveys of 1986 and 1994, Canadians have experienced greater intergenerational mobility than the British or Americans, although private transfer of resources seems to have been decreasing over time.

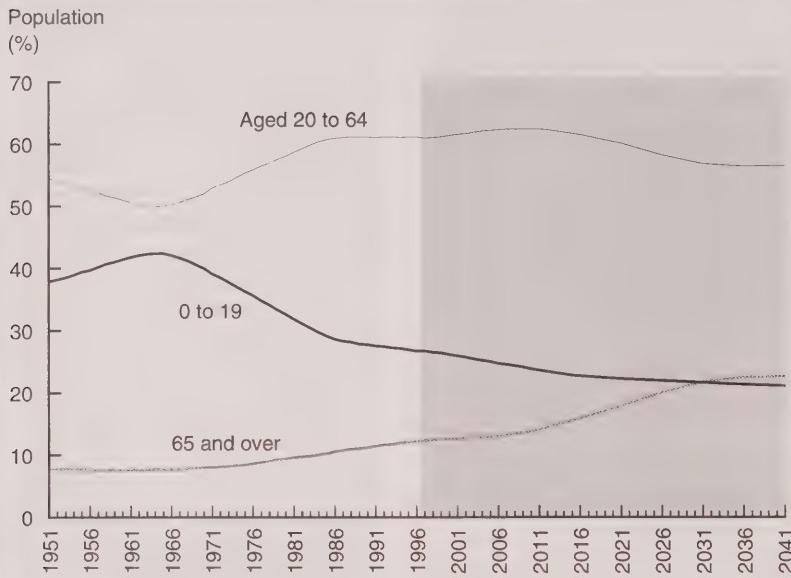
Miles Corak analyzed tax data for 1982 to 1994, comparing the incomes of sons and daughters with those of fathers. The results were interpreted using selected social and neighbourhood variables. The findings confirmed that an individual tends to be

Demographic trends

Older people made up about 8% of the total population in 1951 and they maintained that level until 1975. By 1996, however, they had increased to 12%.

Meanwhile, those aged 19 and under peaked at 42% in 1964 and 1965, then diminished to just 27% by 1996.

Seniors make up a growing proportion of the population.



Sources: *Census of Canada (1951 to 1996); Population Projections for Canada, Provinces and Territories 1993-2016 (1997 to 2041)*.

Note: Statistics Canada produces several population projections. The one shown here is projection number 2, a medium growth scenario.

more successful if his or her father had market income, if the family did not move often, and if there were not many siblings. And while daughters do not make as much money as sons, their incomes are not as strongly influenced by most of the measures examined.

The discussion continued with Céline Le Bourdais' use of General Social Survey data to reconfirm the long-term effects of family instability, especially divorce, on children.

Health and education of children

Tamara Knighton began this segment with an inquiry into parental access to

health care services during a child's first year. Using the database from the Linked Census – Manitoba Health Services Insurance Plan Project, the study showed that parents with higher education made greater use of preventive care services; those with lower education made greater use of treatment care services. A similar relationship was seen for parents with high and low incomes. And these differences in use of health care may have cumulative effects on the child.

Laval Lavallée discussed intergenerational transfer of education and literacy. This analysis confirmed that parents' intellectual capital tends to determine the educational achievement of their children. The study also

indicated an increasing polarization in educational achievement among families.

Asset and Debt Survey

Mike Sheridan described the proposal for the Asset and Debt Survey (ADS) at Statistics Canada. The most recent survey on assets and debts was in 1984 (Survey of Consumer Finances). The ADS would refresh and expand upon that information as well as measure change due to phenomena such as the increase in lone-parent families and individuals living alone, the recession of the early 1990s, the increased popularity of mutual funds, and the aging population. It would permit more detailed and regional analysis of wealth accumulation in Canada. It should also further understanding of the future value of pensions, of the characteristics of debt and debt holders, and of "positive" (for example, mortgages) versus "negative" debt.

Intergenerational support through the family

With data from the 1990 General Social Survey, Leroy Stone and Ingrid Connidis looked at the patterns of exchanges and supports between parents and children and argued that generational accounting needed to find ways to include "private" transfers. While perception of need is crucial to this discussion, the data suggest that parental support often continues well after the children have left home, entered the labour market and begun their own families. Over the long term, parents probably give more to their children than they receive. And, while aging parents do receive increasing support of various kinds from their children, two-thirds of parents aged 75 years and over receive no support from children who do not live with them.

Paul Bernard discussed living arrangements of young people in the 1980s and 1990s, using the annual Survey of Consumer Finances. This

study indicates that young people are residing longer with their parents. When they do leave home they live increasingly in non-couple households.

David Cheal presented a study on poverty and dependence at different ages, using data from the 1993 Survey of Labour and Income Dynamics (SLID). The survey focuses on the family circumstances of the individual, rather than on the family or household as a whole, facilitating a closer look at young people who no longer live with their parents. His study suggests that childhood poverty extends into young adulthood, that people whose parents had low incomes have higher rates of financial dependence than other adults, including the elderly.

Directions for policy (Panel discussion)

Bob Baldwin proposed that younger generations should inherit capital stock that provides good employment opportunities; knowledge and skills for participation in society; a bountiful natural environment; and

social peace. Important questions related to intergenerational equity thus arise: how will retired people continue to have adequate incomes without imposing too much burden on younger generations? How can Canadians ensure that substandard retirement incomes do not become more and more prevalent?

In discussing intergenerational equity, Susan McDaniel called for more co-operation among the academic disciplines involved in socio-economic studies, as well as more research on how resources are shared within families. Current data do not fully capture the dynamism of intergenerational relations, but longitudinal data, such as SLID, begin to address the problem. She stated that more information was needed on how private intergenerational transfer of resources was changing with shrinking public transfers.

Summing up, Arthur Kroeger talked about the substantial changes to Canadian society in recent decades. Those now retired appear to be

continuing to benefit while younger generations may be faring less well than previously. He suggested that this was a time when careful assessment and creative applications of data were crucial in dealing with demanding social issues such as intergenerational equity.

The author wishes to thank Michel Côté for his contribution to this report.



■ Reference

George, M.V. et al. *Population Projections for Canada, Provinces and Territories 1993-2016*. Catalogue no. 91-520-XPB. Ottawa: Statistics Canada, 1994.

Appendix Presentations and participants

The impact of government programs across generations

Chair:

Andrew Sharpe (Centre for the Study of Living Standards)

The Age Distribution of the Tax/Transfer System in Canada

Chantal Hicks (Statistics Canada)

Impacts of Changing Tax/Transfer Systems on the "Lifetime" Distribution of Net Taxes: 1984 to 1996

Brian Murphy (Statistics Canada)

Generational Accounting of Workers' Compensation Unfunded Liabilities

Morley Gunderson (University of Toronto)

Douglas Hyatt (University of Toronto)

Discussants:

James Pesando (University of Toronto)

Paul Lanoie (HEC, University of Montréal)

Generational accounting

Chair:

Ronald Hirshhorn (Consultant)

Applying Generational Accounting to Canada: Issues, Results, and Interpretations

Philip Oreopoulos (University of California at Berkeley)

François Vaillancourt (University of Montréal)

The Economic and Social Welfare Effects of Reducing Transfers from Future to Current Generations

Steven James (Finance Canada)

Chris Matier (Finance Canada)

The Effects of Deficit Financing on Intergenerational Equity and Growth: The Case of Canada

Marcel Mérlette (Finance Canada)

Generational Accounting with Heterogeneous Populations

Michael Wolfson (Statistics Canada)

Steve Gribble (Statistics Canada)

Zhengxi Lin (Statistics Canada)

Geoff Rowe (Statistics Canada)

Discussants:

William Scarth (McMaster University)

Alice Nakamura (University of Alberta)

Huw Lloyd-Ellis (University of Toronto)

The structure of labour markets and their interaction with social programs

Chair:

Jean-Pierre Voyer (Human Resources Development Canada)

Changing Labour Market Conditions, Government Transfers, and Poverty among the Young and Old

Garnett Picot (Statistics Canada)

John Myles (University of Florida)

Wendy Pyper (Statistics Canada)

The Declining Labour Market Status of Young Men

René Morissette (Statistics Canada)

Incomes of the Young and Old: Evidence from the Longitudinal Administrative Databank

Ross Finnie (Carleton University)

Discussants:

Dean Lillard (Cornell University)

Ging Wong (Human Resources Development Canada)

David Gray (University of Ottawa)

Panel discussion: The meaning and measurement of intergenerational equity

Chair:

Mike McCracken (Informetrica)

Discussants:

John Helliwell (University of British Columbia)

Laurence Kotlikoff (Boston University)

Lars Osberg (Dalhousie University)

Intergenerational income mobility

Chair:

Allen Zeesman (Human Resources Development Canada)

Intergenerational Income Mobility Using a Parsimonious Occupation Classification System

Nicole Fortin (Stanford University and University of Montréal)

Sophie Lefebvre (CIRANO)

How to Get Ahead in Life: Some Correlates of Intergenerational Income Mobility in Canada

Miles Corak (Statistics Canada)

Andrew Heisz (Statistics Canada)

Appendix (concluded)
Presentations and participants

Intergenerational Equity: The Impact of Family Disruption in Childhood on Adult Outcomes in Canada

Céline Le Bourdais (INRS – Urbanisation,
 University of Quebec)
 Nicole Marcil-Gratton (University of Montréal)

Discussants:

David Zimmerman (Williams College)
 Guy Lacroix (Laval University)

The health and education of children

Chair:

Brian Ward (Human Resources Development
 Canada)

*The Impact of Socioeconomic Inequity on the Health
 of Young Children*

Jean-Marie Berthelot (Statistics Canada)
 Christian Houle (Statistics Canada)
 Tamara Knighton (Statistics Canada)
 Cameron Mustard (University of Manitoba)

*Parents and Children: Education and Labour Market
 Activities*

Patrice de Broucker (Statistics Canada)
 Laval Lavallée (Vestimeta International Inc.)

Discussants:

Geoff Dougherty (Montréal Children's Hospital)
 Chris Ferrall (Queen's University)

**Presentation and consultation on the Asset
 and Debt Survey**

Mike Sheridan (Statistics Canada)

Intergenerational support through the family

Chair:

Suzanne Peters (Canadian Policy Research
 Networks)

*Intergenerational Exchange in Canada: Pattern and
 Socioeconomic Correlates*

Leroy O. Stone (Statistics Canada)
 Carolyn Rosenthal (McMaster University)
 Ingrid Connidis (University of Western Ontario)

*Eternal Youth? Changes in the Living Arrangements
 of Young People in Canada during the 1980s and
 1990s*

Dominique Meunier (Institut d'études politiques
 de Paris)
 Johanne Boisjoly (University of Quebec in
 Rimouski)
 Paul Bernard (University of Montréal)
 Roger T. Michaud (University of Montréal)

*Hidden in the Household: Poverty and Dependence at
 Different Ages*

David Cheal (University of Winnipeg)

Discussants:

Roderic Beaujot (University of Western Ontario)
 Ted Wannell (Statistics Canada)
 Robin Rowley (McGill University)

Panel discussion: Directions for policy

Chair:

Jim Lahey (Human Resources Development
 Canada)

Discussants:

Bob Baldwin (Canadian Labour Congress)
 Arthur Kroeger (Former Deputy Minister,
 Government of Canada)
 Susan A. McDaniel (University of Alberta)

An overview of permanent layoffs

Garnett Picot, Zhengxi Lin and Wendy Pyper *

Canadians are increasingly concerned about permanent layoffs. Many feel job instability and the possibility of job loss have increased in the 1990s. Governments, confronted with a large number of permanent layoffs each year, need to respond appropriately in order to improve labour adjustment so that displaced workers can quickly find a new job.

Permanent layoffs often lead to the use of Employment Insurance (EI) or even social assistance. These layoffs and the resulting worker displacements need to be better understood. No fewer than three dimensions are critical to the discussion: a) the cause of displacement – permanent layoffs are driven by numerous economic forces, on both the demand and supply side; b) the types of workers involved – some displaced workers have stable employment histories while others are repeatedly displaced; and c) the labour market outcomes – many displaced workers gain while others lose in the post-displacement process.

Using a new longitudinal data source on job separations, this article looks at the first of these issues, namely, the underlying causes of most permanent layoffs (see *Data sources*). It examines the role played by the business cycle, by changes in industrial demand – often associated with structural change – and by firm size. Other factors likely to play a role in layoffs are also considered. Finally, the study provides an overview of the

Data sources

This study is based on the Longitudinal Worker File (LWF) created by Statistics Canada. The LWF is a 10% random sample of all Canadian workers. It was constructed by integrating data from three sources: the Record of Employment (ROE) files of Human Resources Development Canada, the T4 files of Revenue Canada, and the Longitudinal Employment Analysis Program (LEAP) file of the Business and Labour Market Analysis Division (BLMA), Statistics Canada. The last one is an employer file.

Employers issue an ROE to every employee working in insurable employment who has had an interruption in earnings. These records indicate, among other things, the reason for the work interruption or separation. Because they provide information on all workers (covered by EI) with separations, they can be used to determine different types of job separations. In addition, employers issue each employee a T4 slip summarizing his or her annual earnings.

Thus, all workers at risk of job separations, as well as those who actually separate from their jobs, are known from these two data sources in each year. Statistics Canada combines these data sources with additional information from the LEAP file to create a longitudinal file of all Canadian workers: the LWF.

In the LWF, job separations are classified into three categories (quit, layoff and other) according to the reason for

separation indicated in the ROE. A lay-off is a separation due to shortage of work, and is considered temporary if the separated worker returns to the same employer in the same or following year; otherwise, it is permanent. If a worker is observed with a firm in one year but not in the previous one, this is considered a hire. This includes hiring to replace workers who have left, as well as expansion hiring.

Permanent separation rates (the quit rate, permanent layoff rate and the "other" permanent separation rate) are calculated as the number of permanent separations divided by the total number of persons employed at any time during the year (that is, the total number of person-jobs). The hiring rate is the number of hires divided by total employment in the year. On the other hand, the temporary separation rate is calculated by using the number of persons with at least one temporary separation, rather than the total number of temporary separations. The LWF, with its large sample size (1.8 million records in 1988), allows a detailed analysis of job separations by age group or industry.¹

Comparisons with the Labour Market Activity Survey (LMAS) reveal that for the late 1980s the number of permanent separations and layoffs drawn from the survey was comparable to that in the LWF, in spite of the fact that one is drawn from a sample survey and the other is based on administrative data.

work displacement process in the Canadian economy.

Cyclical variation

Permanent layoffs have certain basic features. For example, their number remains high over all phases of a business cycle. It moved from 1.2 million in 1982, at the worst of the recession

of the early 1980s, to 1.1 million in 1989, at the peak of the business cycle. By 1991, the middle of the last recession, it had reached 1.3 million (Table 1). The labour market is thus characterized by an ongoing and more or less stable number of layoffs, irrespective of expansions or recessions.

* Adapted from an article in Canadian Economic Observer (Statistics Canada, Catalogue no. 11-010-XPB) 10, no. 2 (February 1997). 3.1-3.14. Garnett Picot is Director of the Business and Labour Market Analysis Division (BLMA). He can be reached at (613) 951-8214. Zhengxi Lin and Wendy Pyper are also with the BLMA. They can be reached at (613) 951-0830 and (613) 951-0381, respectively.

Table 1
Job separations and hirings

	Number of separations							
	Permanent				Temporary			
	Total	Layoffs	Quits	Other	Total	Layoffs	Other	Hirings
'000								
1978	2,854.0	1,003.7	991.6	858.7	2,153.4	1,159.3	994.1	..
1979	3,038.2	902.7	1,183.5	952.0	2,174.8	1,139.2	1,035.6	3,293.7
1980	2,974.4	867.5	1,139.5	967.5	2,352.5	1,274.6	1,077.9	3,116.5
1981	3,476.4	1,042.9	1,361.4	1,072.2	2,659.8	1,518.7	1,141.1	4,192.1
1982	2,893.7	1,204.8	761.7	927.2	3,323.4	2,031.6	1,291.8	2,003.8
1983	2,640.2	1,098.7	696.8	844.7	2,598.8	1,600.5	998.3	2,992.9
1984	3,118.4	1,159.9	937.0	1,021.4	2,885.7	1,690.5	1,195.3	3,249.2
1985	3,395.5	1,152.8	1,145.4	1,097.3	2,862.8	1,626.6	1,236.2	3,966.0
1986	3,584.2	1,148.4	1,295.0	1,140.9	2,940.5	1,656.3	1,284.2	4,056.2
1987	3,893.6	1,149.4	1,539.6	1,204.5	2,860.6	1,569.6	1,291.0	4,466.5
1988	4,234.9	1,153.6	1,789.6	1,291.8	2,988.8	1,571.8	1,417.0	4,649.5
1989	4,252.6	1,137.4	1,813.0	1,302.2	3,073.5	1,624.0	1,449.4	4,761.4
1990	4,118.4	1,290.3	1,526.8	1,301.3	3,430.0	1,892.3	1,537.7	3,861.1
1991	3,537.2	1,283.8	1,070.5	1,182.9	3,479.1	2,006.3	1,472.8	3,078.6
1992	3,213.7	1,225.3	884.5	1,103.9	3,279.3	1,971.4	1,307.9	2,902.7
1993	3,074.0	1,165.2	837.3	1,071.5	3,085.5	1,840.6	1,245.0	2,952.0
1994	..	..	..	..	..	..	..	3,424.1
Separation rates								
	Permanent				Temporary			
	Total	Layoffs	Quits	Other	Total	Layoffs	Other	Hiring rate
%								
1978	20.9	7.4	7.3	6.3	12.9	7.0	6.5	..
1979	21.6	6.4	8.4	6.8	12.7	6.6	6.7	23.4
1980	21.0	6.1	8.0	6.8	13.2	7.0	6.8	22.0
1981	22.6	6.8	8.9	7.0	13.6	7.6	6.7	27.3
1982	20.8	8.7	5.5	6.7	17.8	10.8	8.1	14.4
1983	18.9	7.8	5.0	6.0	14.8	9.0	6.4	21.4
1984	21.3	7.9	6.4	7.0	15.8	9.1	7.3	22.2
1985	22.0	7.5	7.4	7.1	15.0	8.4	7.2	25.6
1986	22.2	7.1	8.0	7.1	14.7	8.1	7.2	25.2
1987	22.9	6.8	9.1	7.1	13.7	7.3	6.9	26.3
1988	23.8	6.5	10.1	7.3	13.8	7.0	7.3	26.2
1989	23.3	6.2	9.9	7.1	13.7	7.1	7.2	26.0
1990	23.0	7.2	8.5	7.3	15.3	8.3	7.7	21.6
1991	21.0	7.6	6.3	7.0	16.3	9.3	7.8	18.3
1992	19.8	7.5	5.4	6.8	16.0	9.4	7.2	17.9
1993	19.2	7.3	5.2	6.7	15.5	9.1	7.0	18.5
1994	..	..	..	..	..	..	..	21.0

Source: Longitudinal Worker File

Note: Permanent separation rates are calculated by dividing the number of permanent separations by the total number of employed persons at any time during the year. Temporary separation rates, on the other hand, are calculated with the number of persons who have had at least one temporary separation, rather than with the total number of temporary separations.

The permanent layoff rate does decline during expansions, but not dramatically. It moved from 8.7% in 1982 to 6.2% in 1989, and reached 7.6% in 1991 (Chart A). While temporary layoffs increased sharply and quits and hirings fell dramatically during recessions, permanent layoffs were not as cyclically sensitive. Thus, during the recession of the early 1980s, temporary layoffs rose by 78% (from 1.1 to 2.0 million), quits fell by 35% (from 1.2 to 0.8 million) and hirings by 39% (from 3.3 to 2.0 million), while permanent layoffs increased by under 34% (from 0.9 to 1.2 million). The most recent recession tells a similar story. From 1989 to 1991, temporary layoffs increased by 23%

(from 1.6 to 2.0 million), quits declined by 40% (from 1.8 to 1.1 million), and hirings by 35% (from 4.8 to 3.1 million); on the other hand, permanent layoffs rose by only 13% (from 1.1 to 1.3 million).

Regression analysis was used to assess the cyclical sensitivity of these rates. This technique correlates the change in the four rates (for hirings, quits, temporary and permanent layoffs) with changes in the unemployment rate, a useful indicator of cyclical variation in the labour market from 1978 to 1992. The results confirmed those observed above. A one percentage-point increase in the unemployment rate was associated with a

0.9 percentage-point fall in the quit rate, a 1.4 point fall in the hiring rate, and a 0.6 point increase in the temporary layoff rate, but only a 0.3 point increase in the permanent layoff rate. The last rate is the least cyclically sensitive.

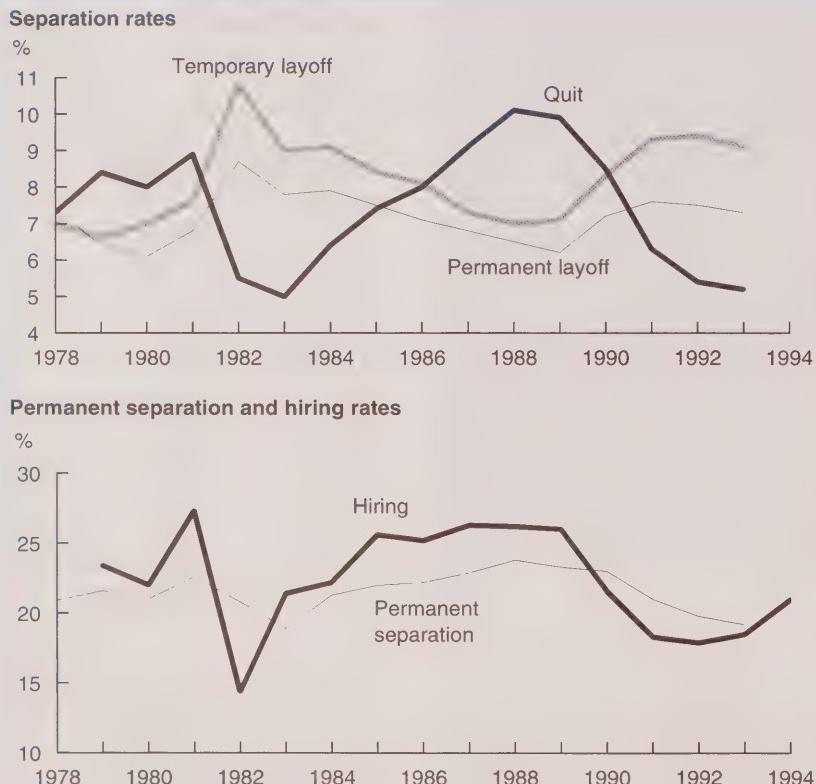
In spite of suggestions that a greater share of the 1990s job loss was permanent, because of cost cutting and increased structural change, the data reveal that both the 1980s and 1990s recessions were similar in this regard. While permanent layoffs did increase marginally as a share of all layoffs during the 1990-92 recession, the change was not significant (Picot, Lemaître and Kuhn, 1994). Nor did the change support the view that there had been a dramatic economy-wide shift toward more permanent job loss, often associated with restructuring. The pattern of worker displacement in the 1990s recession does not appear to have differed significantly from the 1981-82 experience.

Why do permanent layoffs remain high, even during recovery and expansion, and why are they not as cyclically sensitive as temporary layoffs, quits and hires? During economic downturns, quits decline sharply as workers are in less demand. Also, employers may reduce their workforce by means other than permanent layoffs. They may resort to temporary layoffs, separations, or cutbacks in hirings. During economic upswings, on the other hand, quits increase as workers find it easier to find new jobs, and employers expand their workforce by recalling workers temporarily laid off and by increasing hirings. These factors seem to explain, to a large extent, the ups and downs of temporary layoffs and quits during recessions and expansions.

Other processes

In addition to cyclical variation, other processes seem to influence the permanent layoff rate. These include the worker-employer job-matching process, the continual reallocation of market share and labour demand

Chart A
Permanent layoffs are not as sensitive to the business cycle as temporary layoffs.



Source: Longitudinal Worker File

among firms within industries, structural declines in some industries, and decreased labour demand during recessions.

First, individuals seeking jobs and employers seeking workers create matches that may or may not be in the best interest of both parties. As workers learn more about the employer, and vice versa, the match is either continued or terminated. The worker terminates the match by quitting; the employer may turn to permanent layoffs. Triggered by this job-match process, permanent layoffs occur on a continual basis, both in recessions and expansionary periods. They may be more common during expansions as hiring increases, and would tend to involve workers who have been with the employer for a relatively short period of time.

Second, within any market or industry at any given time, some firms will be more successful than others; they will increase their market share while others lose theirs. This reallocation of market share and labour demand will lead to job gains and hirings in some firms, but job loss and permanent layoffs in others. This process is also continual, and the resulting permanent layoffs will occur even if overall labour demand and total employment in a market or industry is increasing.

Third, the Canadian economy experienced a series of structural changes in the 1980s related to increasing globalization, changing composition of the labour force, and accelerating technological advances. Consequently, some industries and sectors have undergone a long-term decline in labour demand. Because these structural changes continue, job loss and permanent layoffs have persisted in some industries and sectors, even during recovery and expansions; this is certainly the case in the goods sector.

Fourth, permanent layoffs can also result from decreases in demand during recessions. These decreases tend

to be economy-wide in scope and are virtually non-existent in expansions. As already noted, however, this is not the only or even primary cause of layoffs, since permanent layoffs remain high even during expansions.

To assess the significance of each process is beyond the scope of this study. The causes are numerous, however, and together they result in a large number of permanent layoffs on a continual basis. The following sections explore further some of these causes.

Industrial patterns in layoffs and job losses

Just as the permanent layoff rate is not highly correlated with changes in the business cycle, so is it only weakly associated with the aggregate economic performance of an industry. Industries with rapid employment growth do not necessarily have low layoff rates, and those with declining employment do not necessarily experience high rates. Put another way, permanent layoffs are not necessarily concentrated in industries that are in long-term structural decline as indicated by declining aggregate employment. The highest permanent layoff rate in 1988 (21.5%) was registered in construction – the industry with one of the highest rates of employment growth that year at 7.8% (Table 2). In neither 1983 nor 1988 (near the turning points of the business cycle) was the correlation between the permanent layoff rate and net employment growth statistically significant. This observation was tested at two levels of industrial aggregation (280 and 52 industries).

According to regression analysis, only for 1988 did a small, statistically significant correlation exist, and only when the process was tested at the 52-industry level. The faster growing industries tended to have marginally higher layoff rates. Overall, during any given year industry growth and the layoff rate were only slightly related.

Other characteristics of industries determine the permanent layoff rate, such as the level of the quit rate in the industry and the volatility of employment at the firm level within the industry. In industries with very high quit rates, job loss may be handled through ongoing attrition rather than permanent layoffs. The job loss in an industry is the sum of employment change across all firms in that industry that either disappeared or had declining employment between 1983 and 1988.²

Job losses and gains have been associated largely with specific changes in particular firms, rather than with economic conditions at the level of the industry (such as restructuring of employment) or the aggregate economy (the business cycle) (Baldwin and Gorecki, 1990; Davis and Haltiwanger, 1992). These firm-specific job losses and gains in turn play a major role in determining permanent layoff rates. An estimated 42% of all permanent worker reallocations in the United States (including quits, permanent layoffs and hires) are associated with job losses and gains in firms (Anderson and Meyer, 1994).

Changing economic conditions associated with industry (as measured by net change in employment) are thus not a good predictor of the permanent layoff rate. Events occurring in firms within these industries are likely more important. Some industries have highly volatile employment at the firm level, even during expansions, leading to higher job loss and hence potentially higher permanent layoff rates.

Firm size and permanent layoffs

Cyclical variation in aggregate demand is only weakly correlated with permanent layoffs. Furthermore, cross-sectional differences in employment change at the industry level do not explain differences in lay-off rates. Differences by firm size,

Table 2
Job loss and permanent layoff rates by industry, 1988

	Job loss * rate due to			Permanent layoffs			
	Total job loss	Disappearance of firms	Firms with declining employment	Permanent layoff rate	Distribution of		Net employment change
					Permanent layoff rate	Total employment	
					%		
Commercial sector	11.0	2.9	8.1	7.9	84.7	74.7	3.5
Forestry/mining	9.0	2.0	7.0	15.5	5.4	2.7	3.8
Manufacturing	8.6	1.8	6.8	6.0	15.1	21.2	4.3
Construction	17.5	4.1	13.2	21.5	18.2	5.4	7.8
Transportation	8.3	2.3	6.0	5.6	2.8	4.2	-0.2
Communication	1.3	0.7	0.6	2.2	0.7	2.8	-1.3
Utilities	1.6	0.6	1.0	1.4	0.2	1.5	8.7
Wholesale trade	10.9	2.3	8.6	5.9	3.7	4.9	3.9
Finance	6.7	1.7	5.0	1.4	0.5	3.2	5.1
Insurance	2.4	0.4	2.0	4.6	0.8	1.4	2.5
Real estate	15.3	3.3	12.0	3.8	0.8	1.6	4.1
Business management	12.8	3.3	9.5	6.2	4.3	4.7	9.4
Retail trade	9.6	2.9	6.7	7.4	14.6	11.6	3.2
Consumer services	15.6	4.7	10.9	8.9	17.4	9.4	1.2

Sources: Longitudinal Employment Analysis Program (job losses); Labour Market Activity Survey (permanent layoffs)

* Job loss is simply the negative employment change in a firm between 1987 and 1988. A firm is a legal entity.

however, are significant. The media often present layoffs as massive cutbacks in large firms. These layoffs are often associated with major worker displacement (such as when a large manufacturer closes a number of plants). Reality, however, does not conform to this image.

Small- and medium-sized firms account for most permanent layoffs. In 1988, small firms (fewer than 20 employees) represented 20% of employment but 41% of permanent layoffs. Firms with 500 or more employees had 40% of employment, but only 17% of permanent layoffs. About one in 8 persons in small firms was laid off permanently in 1988, compared with only one in 29 in large firms (Table 3).

A number of explanations are possible. The first relates to the industrial distribution of large and small firms. If small firms were concentrated in industries with volatile employment due to rapidly shifting demand, then high layoffs would be observed in small firms. This would probably be a characteristic of the industry rather than

of firm size. But firm size differentials in layoff rates are observed in all major industries.

The second possible explanation involves differences in the characteristics of workers. Those in large firms have, on average, a higher level of education, are members of a union and are older and more experienced

than their counterparts in small firms. These characteristics are associated with lower permanent layoff rates and might explain the difference between small and large firms. However, the chance of being laid off from a small firm, even after controlling for worker characteristics, is roughly two-and-a-half times greater than that in large firms.

Table 3
Permanent layoffs by firm size, 1988

Number of employees	Permanent layoff rate	Distribution of permanent layoffs	Dist'n of total employment *
Total	7.1	100.0	100.0
1 to 19	12.0	41.4	19.9
20 to 99	7.6	17.0	15.6
100 to 499	5.7	9.7	13.0
500 and over	3.4	16.6	40.0
Size unknown	8.4	15.2	11.6

Source: Labour Market Activity Survey

* This is the number of hours of employment observed in a particular group (for example, small firms) as a percentage of all hours of employment in the economy for 1988. A part-time job has a lower weight in this calculation than a full-time job.

Table 4
Rate of employment loss and gain by firm size, 1988

Number of employees	Rate of employment loss due to			Rate of employment gain due to		
	Total employment loss	Disappearance of firms	Firms with declining employment	Total employment gain	Appearance of firms	Firms with expanding employment
%						
Commercial sector	10.8	2.8	8.0	13.9	2.8	11.1
1 to 19	16.9	5.3	11.6	26.5	6.5	20.0
20 to 99	12.5	3.0	9.5	16.6	3.6	13.1
100 to 499	11.8	3.1	8.8	12.6	2.3	10.3
500 and over	5.6	0.9	4.7	5.3	0.3	5.0

Source: Longitudinal Employment Analysis Program

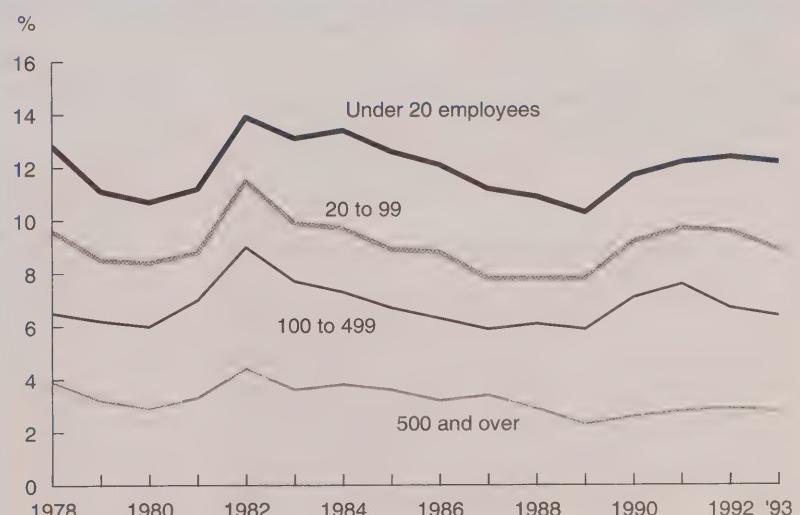
The third possible explanation relates to the stability of small and large firms. The small firm sector is highly volatile: firms are much more likely to disappear and be replaced by others, obviously affecting layoffs. In 1988, employment among small firms fell 5% because some disappeared, and an additional 12% because declining (but continuing) firms downsized. Thus, 17% of total employment in small firms was lost in declining or disappearing firms (Table 4). Among large firms, only 6% of employment was lost (1% from disappearing firms and 5% from declining). With a rate of job loss three times higher than that of large firms, it is not surprising that small firms could have three to four times the permanent layoff rate. These observations are not unique to any particular year.

The difference between small and large firms' layoff rates persists over the course of the business cycle. During the 1980s and early 1990s, the likelihood of being displaced (permanently laid off) from a large firm, even during a severe recession like that of 1981 to 1982, does not approach that of being laid off from a small firm during the best of economic times (Chart B).

Of course, most hiring is concentrated in small firms as they expand or as new ones are created. For example, in 1993 the hiring rate (the number hired as a proportion of all employees in a firm) was around 25% for firms with fewer than 100 employees, and 9% among those with 500 and over. This means that very small firms (un-

der 20 employees) accounted for 41% of all hiring, but only 29% of employment (person-jobs). Conversely, large firms (500 and over) registered only 15% of all hiring, but 31% of employment (person-jobs). Hiring is highly concentrated in small- and medium-sized firms, as are permanent layoffs.

Chart B
Small firms are much more likely to lay off employees.



Source: Longitudinal Worker File

Conclusion

Permanent layoff rates are not determined primarily by cyclical fluctuations in aggregate demand or by factors affecting economic performance of industries. Rather, the process is more complex, relating to the employer-worker match process and, in particular, to the reallocation of market share and labour demand among firms within industries. This process is continual and ongoing, and results in the relative stability of permanent layoffs in the economy. This reallocation process is also more evident among small than large firms, resulting in a concentration of permanent layoffs in the small firm sector.

Permanent layoffs are an ongoing feature of a market economy in which there is "creative destruction." Workers are being laid off and hired in large numbers, more than a million per year. Increases in permanent layoffs do not define a recession the way a rise in temporary layoffs or a decline in hirings and quits might. Permanent layoffs are much less cyclically sensitive than the other methods firms use to adjust their workforce. □

And there is no evidence that permanent layoffs played a larger role (relative to temporary layoffs) in firms' adjustments to changing demand in the 1990s recession than they did during the 1980s recession.

Thus, a decline in aggregate demand in recessions is not the principal cause of permanent layoffs, although it is obviously a contributing factor. Another possibility is decreasing employment in some industries, and increasing employment in others. Here again, however, little evidence supports the notion that the level of permanent layoffs is related to such changes in employment. Changes in net employment in an industry are not correlated with the layoff rate. Some declining industries have low layoff rates, while some expanding sectors have high rates. Certain other aspects within an industry determine the layoff rate. These are probably related to the level of gross job gain and loss at the firm level in an industry, independent of the changes in aggregate demand occurring in the industry. □

References

Anderson, P.M. and B.D. Meyer. "The extent and consequences of job turnover." in *Microeconomics 1994*. Brookings Papers on Economic Activity, edited by M. N. Baily, P.C. Reiss and C. Winston, 177-236. Washington: Brookings Institution, 1994.

Baldwin, J.R. and P.K. Gorecki. *Structural Change and the Adjustment Process: Perspectives on Firm Growth and Worker Turnover*. Ottawa: Economic Council of Canada and Statistics Canada, 1990.

Davis, S-J. and J. Haltiwanger. "Gross job creation, gross job destruction and employment reallocation." *Quarterly Journal of Economics* 107, no. 3 (August 1992): 819-863.

Heath, J. et al. *Worker Turnover in the Canadian Economy, 1978-1989*. Catalogue no. 71-539-XPB. Ottawa: Statistics Canada, 1992.

Picot, G., G. Lemaître and P. Kuhn. "Labour markets and layoffs during the last two recessions." *Canadian Economic Observer* (Statistics Canada, Catalogue no. 11-010-XPB) 7, no. 3 (March 1994): 4.1-4.13.

Notes

1 For more details on the LWF and definitions, see Heath et al. (1992).

2 The job loss rate is the number of job losses divided by total employment in the industry during the base year. Job loss refers to the loss of a job in a firm (that is, a decline in employment levels), not to the exit of a worker from a firm.

What's new?

■ UPCOMING RELEASES

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- In early 1997, an average 1.9 million people worked overtime, accounting for 19% of all employees who were at work. Most overtimeers were unpaid for their extra time; 11% of employees worked overtime without compensation while 8% worked paid overtime.
- In the first quarter of 1997, the underemployed made up 2% of all employed. Approximately 293,000 workers accepted part-time jobs because of business or economic conditions unfavourable to full-time opportunities.
- In 1995, 24% of workers put in fewer than 35 hours per week, an increase of 8 percentage points from 1976. The percentage working long hours (greater than 40), meanwhile, increased from 19% to 22% over the same period.
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For additional information on this new quarterly, contact Geoff Bowlby at (613) 951-3325; Internet: bowlgeo@statcan.ca or Jean-Marc Lévesque at (613) 951-2301; fax (613) 951-2869; Internet: levejea@statcan.ca. □

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- Average net operating income (before depreciation) of farm businesses rose 14% in 1995, to

\$23,600 per farm. Average operating revenues increased 8% and average operating expenses rose 7%.

- Higher grain and oilseed revenues were largely responsible for the overall rise in revenues. Program payments to farmers continued to trend down (-19%), reflecting improved growing conditions and higher market returns. The increase in expenses was due mainly to higher crop production expenses and feed costs.
- Tobacco farms' average net operating income of \$60,400 topped the list in 1995. Their operating margin was up 52% from the year before.
- Cattle farms came last at \$8,800 per farm. This reflects their relatively low average operating revenues and margins.
- These estimates cover unincorporated farms with gross operating revenues of \$10,000 and over and corporations with total farm sales of \$25,000 and over, and for which 51% or more of their sales come from agricultural activities. The estimates presented in this release also include communal farming organizations.

Agricultural Financial Statistics, 1995 (Catalogue no. 21-205-XPB, \$47), a product of a joint venture between Statistics Canada and Agriculture and Agri-Food Canada, is now available. For further information, contact Lina Di Piéto, Agriculture Division at (613) 951-3171; Internet: dipilin@statcan.ca. □

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An Experimental Canadian Survey That Links Workplace Practices and Employee Outcomes: Why It Is Needed and How It Works

G. Picot and T. Wannell
Research Paper Series no. 100

Changes in the labour market are often related to changes in the way firms engage and pay for labour and adopt new technologies, and in the types of market in which firms compete, as well as to other changes on the demand side of the labour market. But data have never existed that allowed activities in firms to be linked to outcomes for the workers. This paper outlines why such data are necessary. The example of rising inequality is used to demonstrate the need for such a survey. Also presented is an outline of how a new approach to surveying can provide such data. The proposed Workplace and Employee Survey, an experimental survey sponsored by Human Resources Development Canada, first questions the establishment, then the workers within that establishment. A direct link is also made between the events in the firm and the characteristics of the workers, another area of research that has lacked data at the micro-level. This paper outlines the need for such a survey, its possible content, and research topics that could be addressed with the data.

Working More? Working Less? What Do Canadian Workers Prefer?

M. Drolet and R. Morissette
Research Paper Series no. 104

Faced with high unemployment rates, an unequal distribution of work time, and shifts to temporary, part-time and contract employment, Canadian workers may prefer to change their work hours. Using data from the 1995 Survey of Work Arrangements, this study observes that two-thirds of Canadian workers are satisfied with their work hours. The majority of workers who are not satisfied would prefer more hours

for more pay rather than fewer hours for less pay. This finding holds for each age group, education level, seniority level, industrial and occupational group. Workers most likely to want more hours are generally young, have low levels of education and little seniority, hold temporary jobs, work short hours and are employed in low-skill occupations. Workers most likely to prefer a shorter week are professionals, managers, and natural and social science workers, who tend to have high hourly wage rates, high levels of education and long job tenure. They also occupy permanent jobs and already work long hours.

Calculations based on the 1985 Survey on Work Reduction suggest that if Canadian workers were to reduce their work week voluntarily, the number of work hours available for redistribution would not likely

be sufficient to eliminate underemployment *and* reduce unemployment. The potential for work time redistribution, as measured by the desire for fewer hours, appears to be greatest (lowest) in age and education groups with relatively low (high) unemployment rates. This implies that the resulting decrease in unemployment and underemployment could be more pronounced in groups where workers are already relatively successful.

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Development Canada)
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Labour income

Frequency: Quarterly
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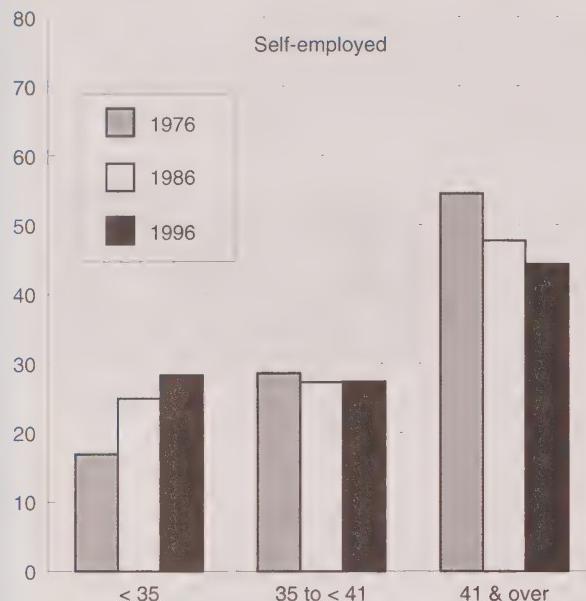
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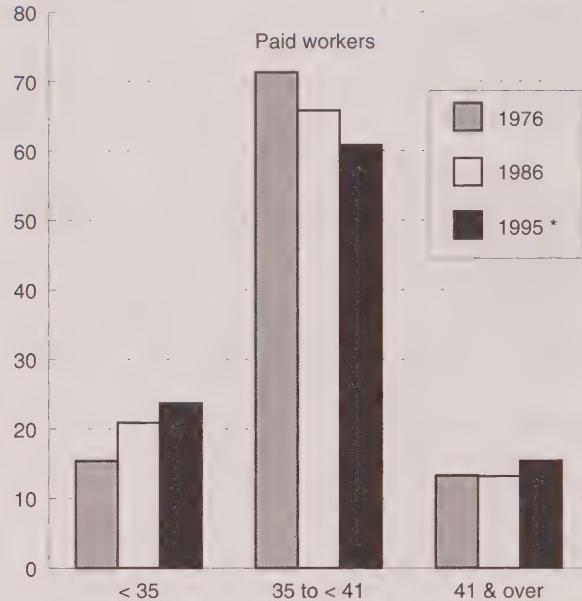
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Trends in usual weekly work hours

% distribution of hours



% distribution of hours



Source: Labour Force Survey

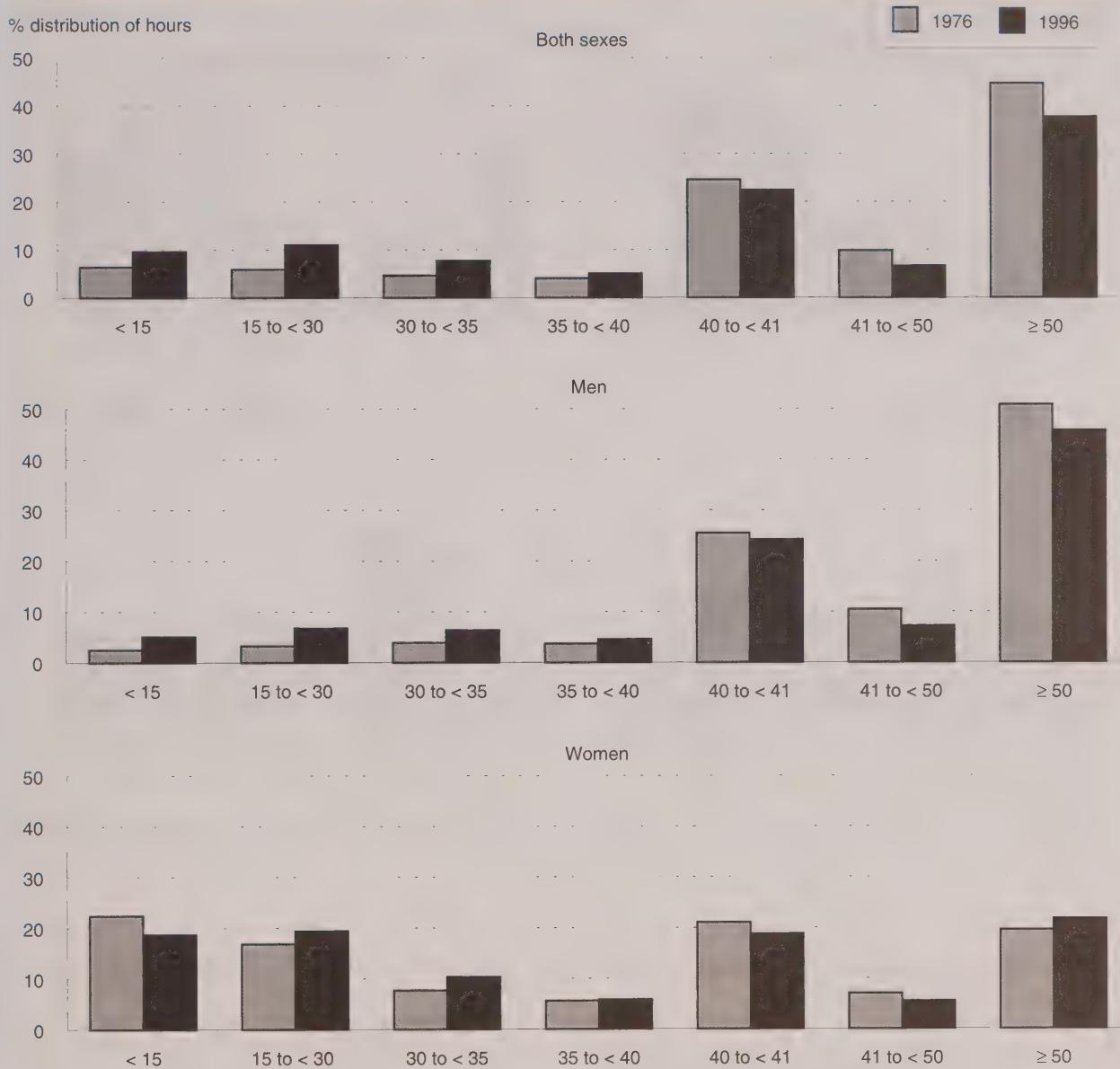
* The 1996 hour distributions for employees are not included because the question about usual hours at the main job was changed in September 1996. For more information, see Labour Force Update: Hours of work, Catalogue no. 71-005-XPB (Summer 1997).

More are working short hours

- The distribution in work hours of employees differs greatly from that of the self-employed. The majority of employees generally work a standard hour week (35 to fewer than 41 hours) while many business owners work long hours (41 and over a week).
- In the last 20 years, however, work hours have changed for both types of workers. The proportion of paid workers with standard hours is declining, and the proportions with short hours (fewer than 35) and long hours (41 and over) are climbing. Stated differently, work hours among employees are polarizing.

- For the self-employed, short work weeks are becoming more common. In 1976, 54% of the self-employed worked 41 hours and over each week; by 1996, the rate had declined to 44%. Only 17% of the self-employed worked fewer than 35 hours in 1976, compared with 28% in 1996.
- The proportion of the self-employed working standard hours has changed little since 1976, fluctuating around 28%.

Usual weekly work hours of the self-employed, by sex



Source: Labour Force Survey

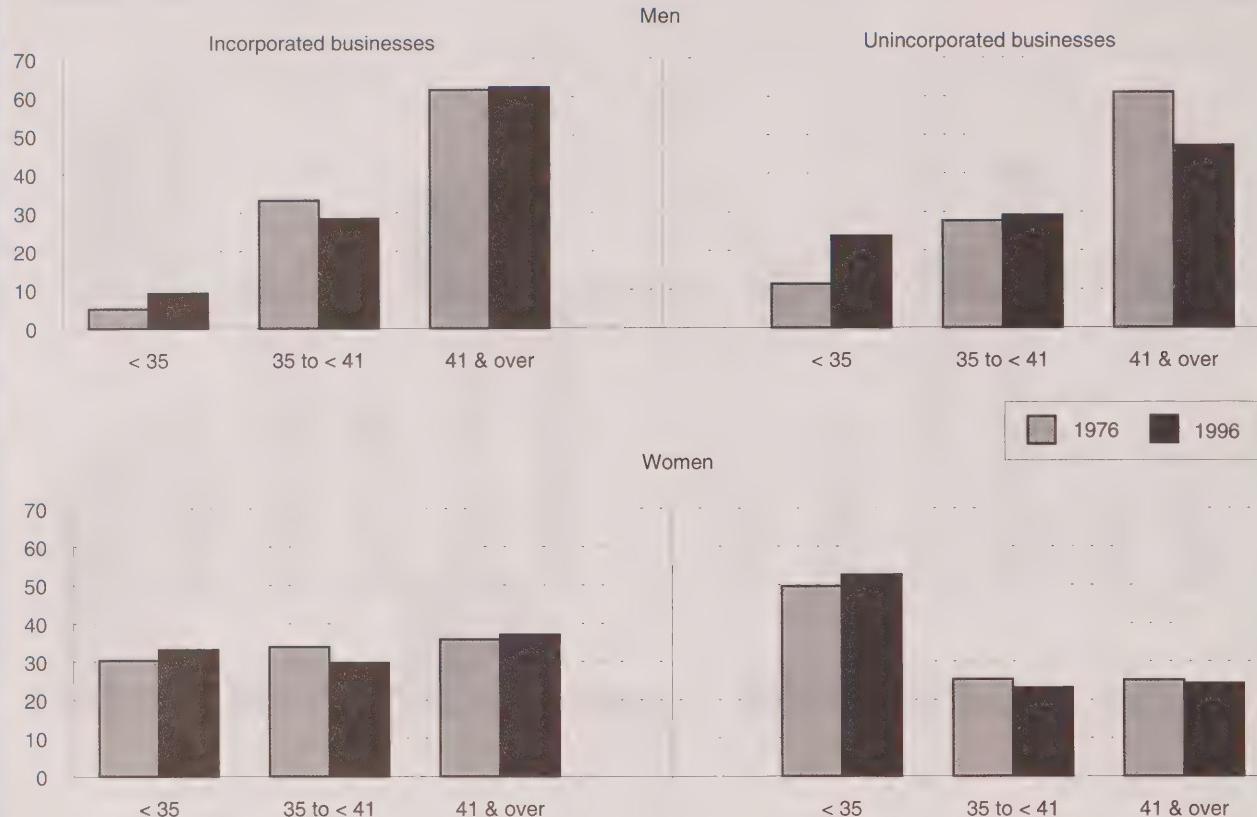
Men's and women's work hours differ greatly

- The overall distribution of work hours among the self-employed reflects primarily the schedules of male business owners, since they accounted for 67% of the self-employed in 1996. Just under half (46%) these men worked at least 50 hours in 1996, a decrease from 51% in 1976.

- Women represented 33% of the self-employed in 1996, compared with just 19% in 1976. The distribution of work hours for this group has not changed significantly over time. Some 48% worked short hours in 1996, while 27% worked 41 hours and over, and 25% worked a standard hour week.

Usual weekly work hours by type of business

% distribution of hours



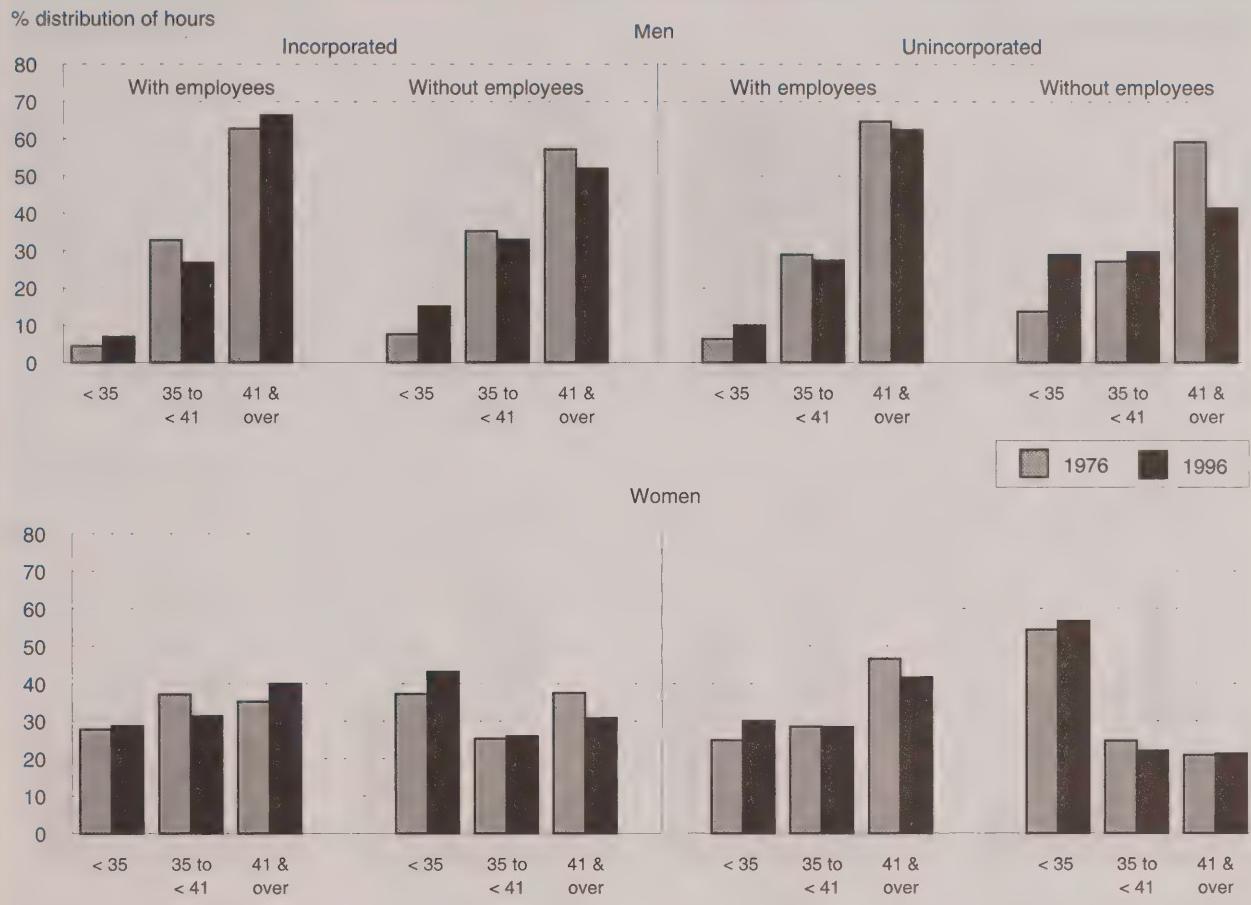
Source: Labour Force Survey

More men with unincorporated businesses worked short hours in 1996 ...

- Most business owners have unincorporated businesses, although the proportion has declined (68% in 1996 compared with 76% in 1976). The hours distribution for men has changed most for those with unincorporated businesses: 47% worked long hours in 1996, compared with 61% in 1976, and 24% worked fewer than 35 hours (versus 11% in 1976).

- Men with incorporated businesses are the most likely to work long hours. This hasn't changed much since 1976, although the slight decrease in those working standard hours has been offset by an increase in the proportion working fewer than 35 hours.
- A greater proportion of self-employed women (78%) than men (62%) had unincorporated businesses in 1996. Over half of these women (53%) worked short hours in 1996. The hours distribution for women with incorporated businesses, on the other hand, was almost equally spread among the three hour groupings, with little difference between 1976 and 1996.

Usual weekly work hours by type of business, with or without employees

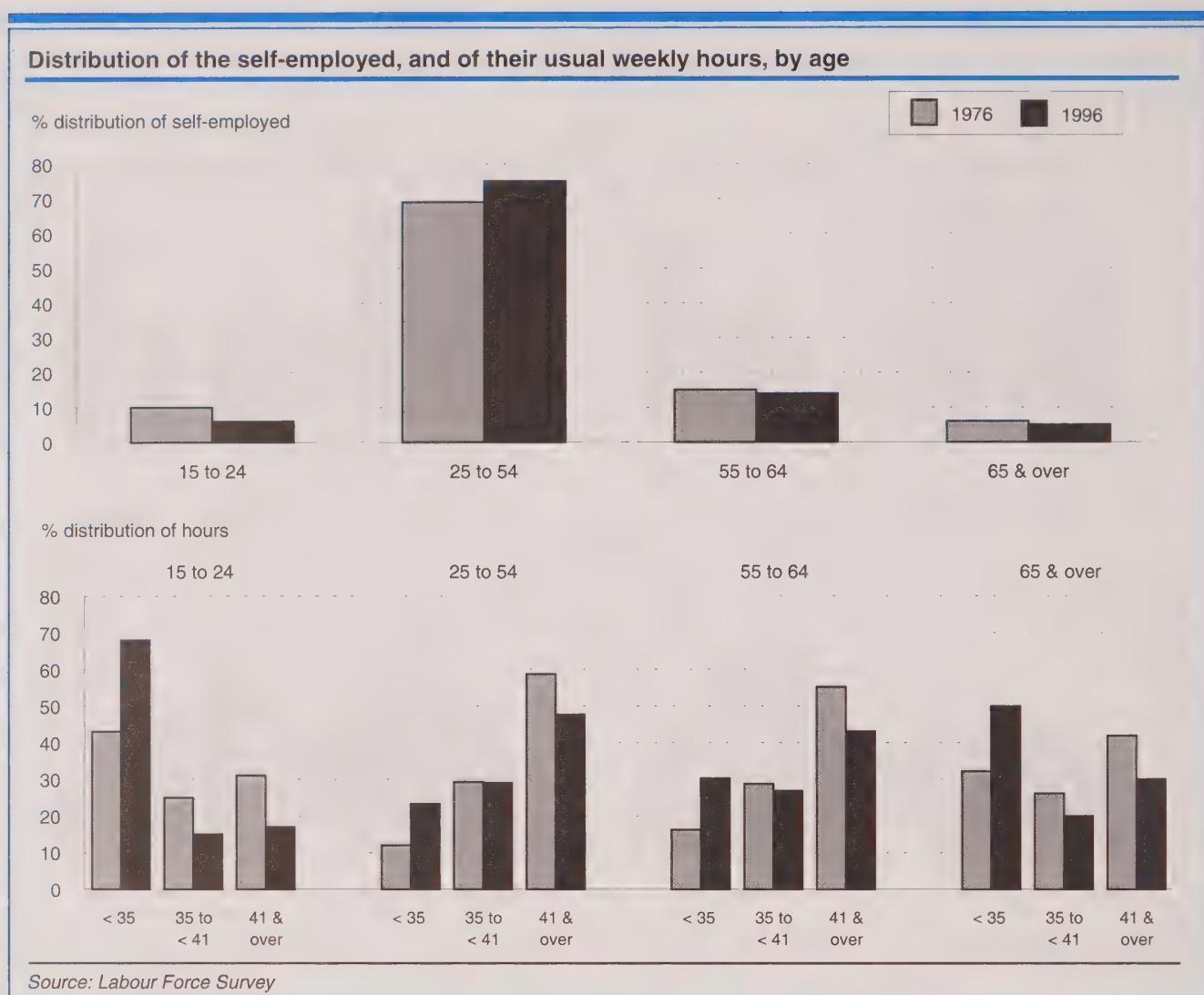


Source: Labour Force Survey

especially those without employees

- Most incorporated businesses had employees in 1996 (72%), while most unincorporated businesses had none (77%).

- Whether incorporated or unincorporated, a higher proportion of business owners with or without employees tended to work short hours in 1996. This was particularly true for men with unincorporated businesses and no employees.

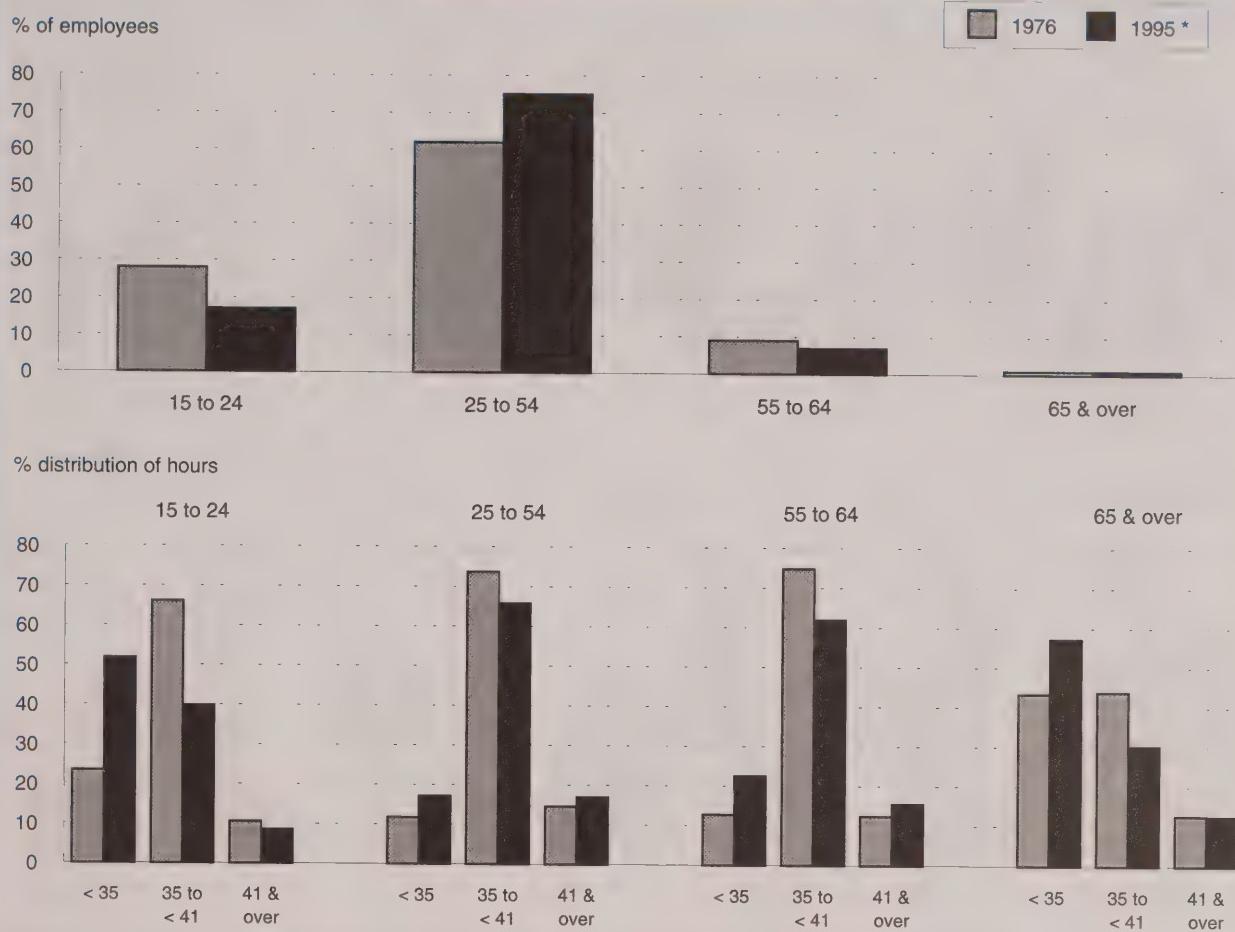


Youngest and eldest work short hours ...

- Three-quarters of the self-employed fall into the core age group of 25 to 54 years, a slight increase since 1976 (69%).
- The distribution of work hours varies by age. Business owners aged 15 to 24 and 65 and over tended to work short hours in 1996, while those 25 to 54 were least likely to have done so.

- The proportion working short hours has risen in all age groups, especially for the young. In 1976, 43% of 15 to 24 year-olds worked fewer than 35 hours; by 1996, that proportion had increased to 68%. This change reflects, among other things, increasing school attendance among the young and a growing tendency to combine school and work.
- In 1976, 42% of those aged 65 and over worked long hours; by 1996, 50% were working short hours.

Distribution of paid workers, and of their usual weekly hours, by age



Source: Labour Force Survey

* The 1996 hour distributions for employees are not included because the question about usual hours at the main job was changed in September 1996. For more information, see Labour Force Update: Hours of work, Catalogue no. 71-005-XPB (Summer 1997).

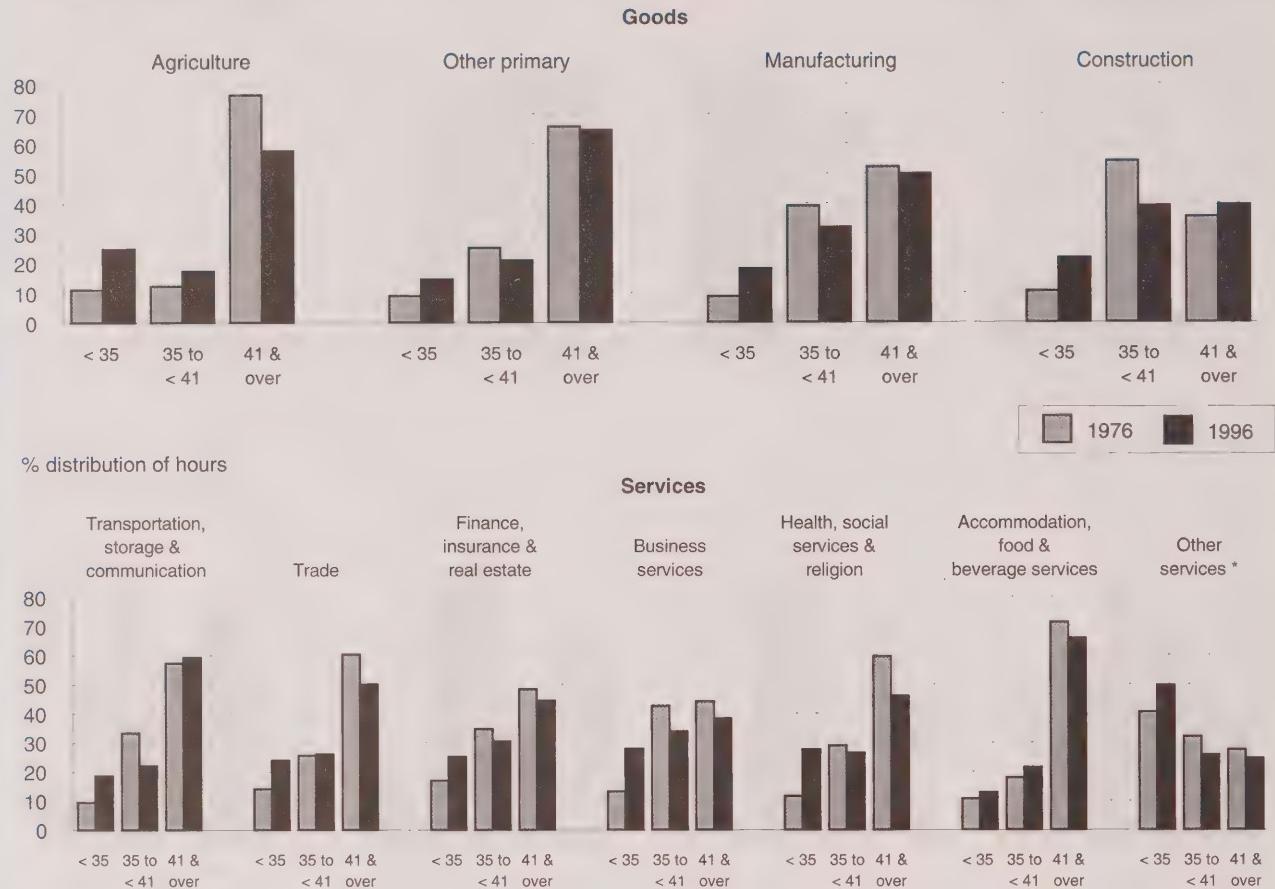
as do employees

- As with the self-employed, all age groups of paid workers have seen an increase in the proportion working short hours, especially 15 to 24 year-olds. The older age groups have also experienced significant growth in short hours.

- In 1976, around 40% of employees aged 65 and over worked short hours, and a similar proportion worked standard hours. By 1995, close to 60% were working fewer than 35 hours.

Usual weekly work hours of the self-employed, by industry

% distribution of hours



Source: Labour Force Survey

* Includes amusement and recreational services, personal and household services, membership organizations and other service industries.

The trend continues by industry

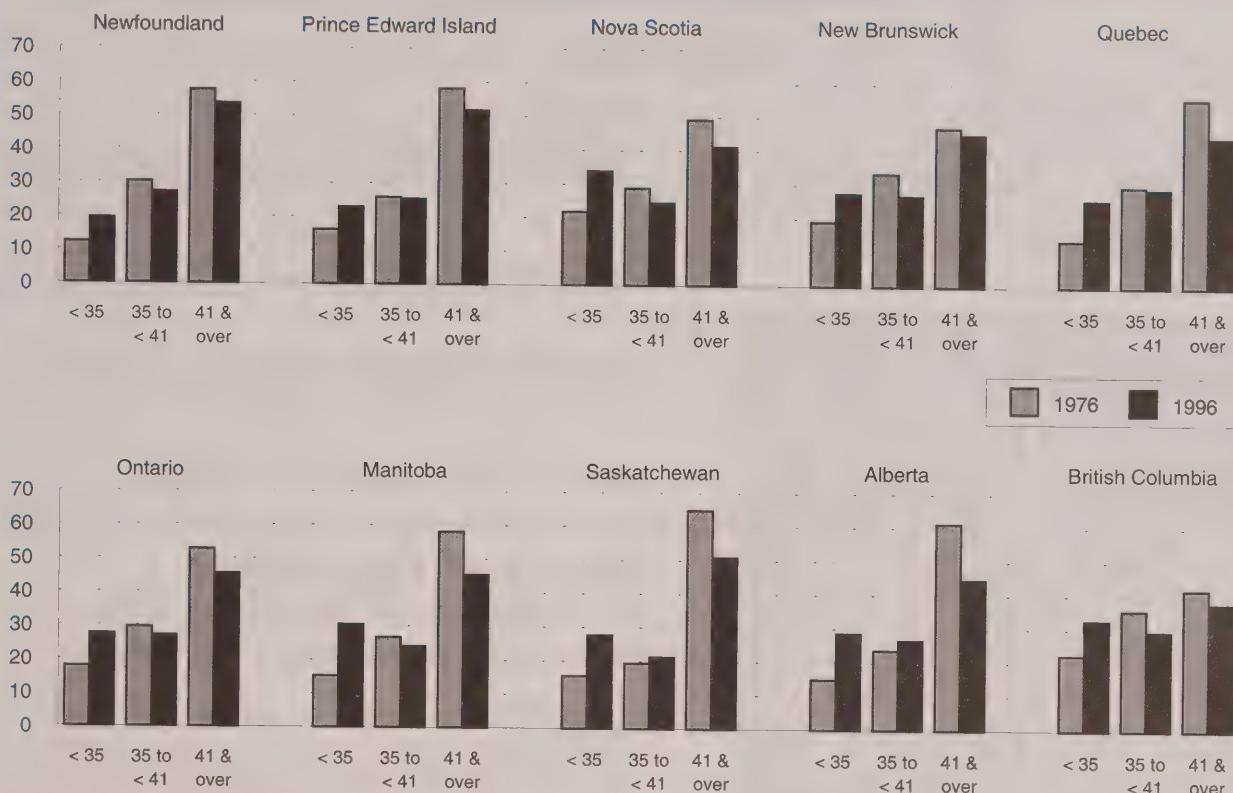
- In 1976, the industries with the largest share of self-employment were agriculture, trade, other services, and construction. By 1996, the business services industry had joined the group.
- The proportion of workers with short hours has increased in each major industry since 1976, especially in health, social services and religion; business services; and agriculture. In other services, made up mainly of amusement and recreational; personal and household services, almost half worked short hours in 1996.
- Short hours were especially prevalent for women with businesses in other services and agriculture. For men, industries with the highest proportion working short

hours were other services; finance, insurance and real estate; construction; and business services.

- Long hours predominate in most industries, though the proportion of the self-employed with long hours declined in several industries between 1976 and 1996. Roughly two in three business owners still worked long hours in accommodation, food and beverage services; other primary industries; transportation, storage and communication; and agriculture. The same trend held for men. Women worked mainly long hours in only one industry: accommodation, food and beverage services.
- The only industries that have experienced an increase in long hours since 1976 are transportation, storage and communication; and construction.

Usual weekly work hours of the self-employed, by province

% distribution of hours



Source: Labour Force Survey

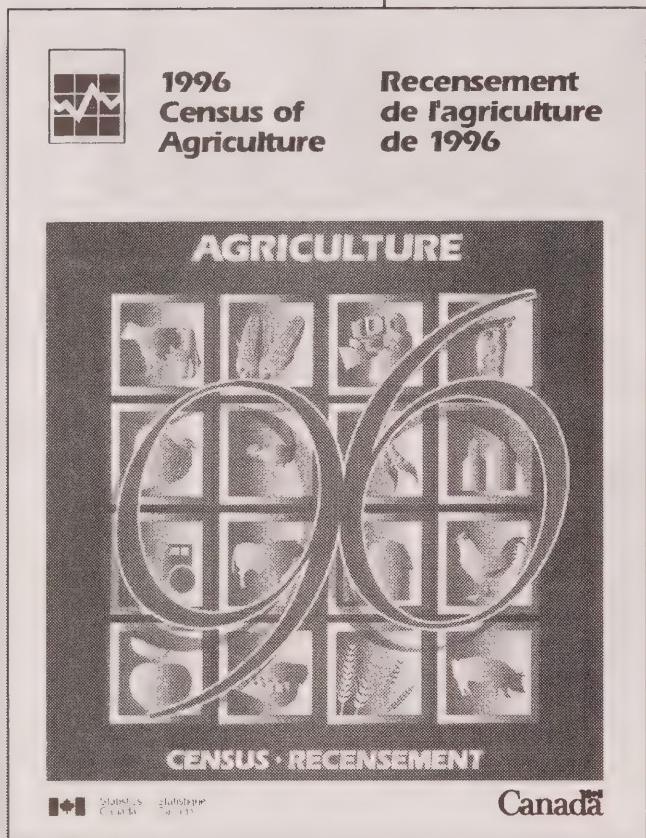
British Columbians are least likely to work long hours

- In each province, proportionately more of the self-employed were working short hours in 1996 and fewer were working long hours. These changes were most marked in the Prairie provinces and Quebec.
- Long hours were most common in Newfoundland, Prince Edward Island and Saskatchewan. Business owners in Nova Scotia, British Columbia and Manitoba had the highest proportions working short hours.

- British Columbia differed considerably from the other provinces. Short, standard and long hours were more evenly distributed in 1996.

Charts and text for this issue's "Key labour and income facts" were prepared by Jeannine Usalcas of the Labour and Household Surveys Analysis Division. She can be reached at (613) 951-4628; Internet: usaljea@statcan.ca. The *Labour Force Update*, Autumn issue (to be released in October 1997) will feature more topics on the self-employed.

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In the works

Here are some of the topics to be featured in upcoming issues

■ Non-permanent jobs and regional disparities

The proportion of non-permanent jobs is greater in the East, a finding only partly explained by the prevalence of seasonal work. This article measures the extent of regional disparities by type of job (permanent, temporary, occasional) and quality (salary and benefits). Seasonal work is excluded. Where possible, the study examines subprovincial data.

■ Redistribution of hours of work

Using the 1995 Survey of Work Arrangements, this article considers how usual hours of paid overtime might be converted to full-time equivalent jobs. Analysis is by province, occupation and level of education. Finally, a trial matching of the hours created with the number of unemployed shows that this potential creation remains hypothetical if done on a voluntary basis.

■ International comparison of employee training

This study looks at employee training in the seven countries participating in the 1994 International Adult Literacy Survey. Training effort, sources of support, motivation, and characteristics of trainees are examined.

■ Overtime

Despite a relatively strong economy, unemployment rates remain high, and many people who have jobs would like to work more hours. Paradoxically, many others feel burdened by long hours of work. This article sheds light on the characteristics of the people who work either paid or unpaid overtime, and of the jobs that demand such hours. Analysis by sex, age, marital status, education, province, industry and occupation is included.

■ Work hour preferences

Faced with high unemployment rates, an unequal distribution of work time, and shifts to temporary, part-time and contract employment, Canadian workers might prefer to change their work hours. Data from the Survey of Work Arrangements show that two-thirds of workers are satisfied with their hours and that most of those who are not would prefer to work more hours for more pay. This article analyzes work hour preferences by sex, province, job characteristics and family situation.

■ Index 1989-1997

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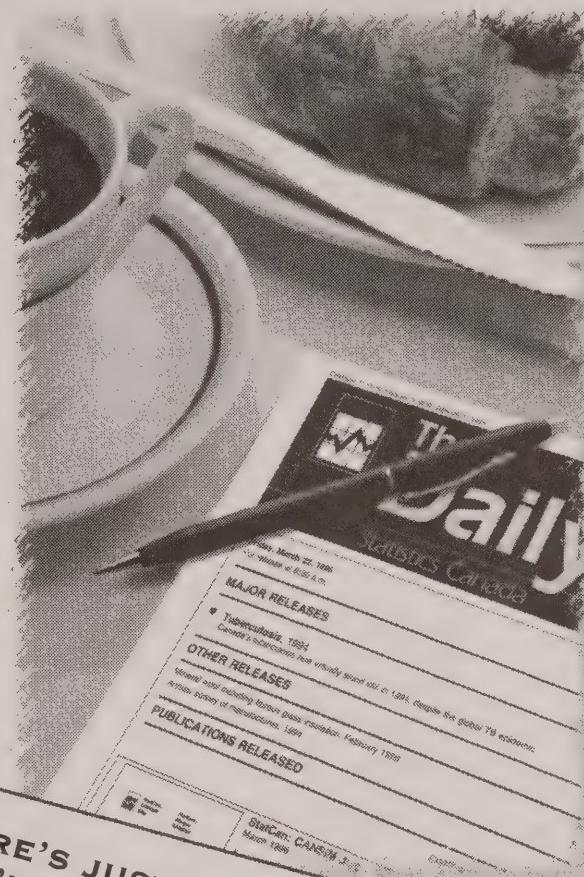
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ON LABOUR AND INCOME

WINTER 1997

Vol. 9, No. 4

■ WORK HOURS

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- REDISTRIBUTION OF OVERTIME
- PREFERENCES

■ NON-PERMANENT JOBS ACROSS THE COUNTRY

■ STATISTICAL PORTRAIT OF UNIONS

■ INDEX: 1989-1997



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ON LABOUR AND INCOME

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■ Articles

- 9 Working overtime in today's labour market**
Doreen Duchesne

Using the most recent data available, this article sheds light on the characteristics of people who work either paid or unpaid overtime. The number of extra hours they put in and the types of job they perform are also examined.

- 25 The redistribution of overtime hours**
Diane Galarneau

Would redistributing work hours solve the unemployment problem? This study converts regular paid overtime hours into hypothetical full-time jobs, then distributes them by province, occupation and level of education. It attempts to match these full-time jobs with the unemployed by province and occupation.

- 32 Working more? Less? What do workers prefer?**

Marie Drolet and René Morissette

Although two-thirds of workers are satisfied with their hours, many of the remainder would prefer to work more hours for more pay. This article analyzes work hour preferences by sex, province, job characteristics and family situation. (Adapted from an Analytical Studies Branch research paper published in May 1997.)

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39 Regional disparities and non-permanent employment

Dominique Pérusse

The proportion of non-permanent jobs is relatively high in eastern Canada, a finding only partly explained by the prevalence of seasonal work. This article provides a regional analysis of seasonal, temporary and occasional jobs. It also asks whether non-permanent jobs include fewer benefits than permanent ones. Where possible, the study examines subprovincial data.

45 A statistical portrait of the trade union movement

Ernest B. Akyeampong

This article traces union membership over the last 30 years. It looks at current demographic and labour market characteristics of union members, as well as wages, benefits and work arrangements of both union and non-union members. Also examined are wage increases vis-à-vis inflation rates, and the state of labour unrest over the past two decades. An international look at union rates is also provided. (This is an updated version of an article released shortly before Labour Day this year.)

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Forum

Letter from the Editor-in-Chief

■ Not infrequently, data published by Statistics Canada are interpreted by data users in ways not originally intended. This in itself is not a problem, since our estimates are in the public domain and people are at liberty to use them in any way they choose. However, problems can arise when certain interpretations of these estimates are attributed to the Agency.

The low income cut-offs (LICOs) produced by Statistics Canada are an example of this. Many users have interpreted the LICOs as official poverty lines, in spite of the Agency's repeated declarations to the contrary.

In order to make this position better known and understood, the Chief Statistician sent the following letter to a number of Canadian newspapers this past September. Those *Perspectives* readers who have not already seen it might be interested in reading it.

Ian Macredie
Editor-in-Chief

On poverty and low income

Recently there has been extensive and recurring media coverage of Statistics Canada's low income cut-offs (LICOs) and their relationship to the measurement of poverty. At the heart of the debate is the use of the LICOs as poverty lines, even though Statistics Canada has clearly stated, since their publication began over 25 years ago, that they are not. The high profile recently given this issue has presented Statistics Canada with a welcome opportunity to restate its position on these issues, views that seem to have become lost in the debate. To this end, I would like to bring the following to your readers' attention.

There is an understandable desire by many people and organizations – in Canada and abroad – to know how many persons and families live in "poverty" and how these numbers are changing. Reflecting this need, different groups have at different times developed various measures purporting to divide the population into those who were poor and those who were not.

In spite of these efforts, there is still no internationally accepted definition of poverty – unlike measures such as employment, unemployment, gross domestic product, consumer prices, international trade and so on. This is perhaps not surprising given the absence of even the

beginning of a consensus on the fundamentals of how to approach the measurement of poverty. Such consensus preceded the development of all other international standards.

The lack of an internationally accepted definition also reflects indecision as to whether such a standard should allow comparisons of well-being across countries compared with some international norm, or whether poverty lines should be established by reference to the norms within each country.

The proposed poverty lines have included, among others, relative measures (you're poor if your means are small compared with those of others in your population) and absolute measures (you're poor if you lack the means to buy a specified basket of goods and services designated as essential). Both approaches involve judgemental and, hence, ultimately arbitrary choices. In the case of the relative approach, the fundamental question is what fraction of the overall average or median income constitutes poverty? Is it one-half, one-third, or some other proportion? In the case of the absolute approach, the number of individual judgements required to arrive at a poverty line is far larger. Calculating the minimum income needed to purchase the "necessities" of life first requires deciding what constitutes a necessity in food, in clothing, in shelter and in a multitude of other purchases from transportation to reading material.

The underlying difficulty is due to the fact that poverty is intrinsically a question of social consensus at one point in time and in the context of a given country. Someone acceptably well off in terms of third-world standards might well be considered desperately poor in Canada. And even in the same country the outlook changes over time. A standard of living considered acceptable in a previous century might well be viewed with abhorrence today.

It is through the political process that democratic societies achieve social consensus in domains that are intrinsically judgemental. The exercise of such value judgements is certainly not the proper role of Canada's national statistical agency, which prides itself on its objectivity, and whose credibility depends on the exercise of that objectivity. In Canada the political powers have not yet expressed their views, the provincial and federal governments having so far refrained from setting official poverty lines. Even provincial welfare benefit rates (which vary considerably) have never been designated as placing the recipients on one side or the other of poverty.

Should governments establish a definition, Statistics Canada will endeavour to estimate the number of people who are poor according to that definition. That is a task that is certainly in line with its mandate and its objective approach. In the meantime, Statistics Canada does not and cannot measure the level of poverty in Canada.

For many years, Statistics Canada has published a set of measures called the low income cut-offs. We regularly and consistently emphasize that these are quite different from measures of poverty. They reflect a consistent and well-defined methodology that identifies those who are substantially worse off than the average. Of course, being significantly worse off than the average does not necessarily mean that one is poor. Nevertheless, and particularly in the absence of an accepted definition of poverty, these statistics have been used by many analysts who wanted to study the characteristics of the relatively worst off families in Canada. These measures have enabled us to report important trends, such as the changing composition of this group over time. For example, 20 to 30 years ago the elderly were by far the largest group in the "low income" category; more recently, single-parent families headed by women have grown in significance.

These and other insights facilitated by the analysis of the characteristics of families below our low income lines have been found useful by many, both in and out of government. As a result, when some 10 years ago Statistics Canada carried out a wide-ranging public consultation, we were almost unanimously urged to continue publishing our low income analyses. Furthermore, in the absence of a generally accepted alternative methodology, the largest number of those consulted urged us to continue using our present definitions.

In the absence of politically sanctioned social consensus on who should be regarded as "poor," some people and groups have been using the Statistics Canada low income cut-offs as a *de facto* definition of poverty. As long as that represents their own considered opinion of how poverty should be defined in Canada, we have no quarrel with them: we are all free to have our own views. But they certainly do not represent Statistics Canada's views about how poverty should be defined.

I thank you for sharing these thoughts with your readers.

Ivan P. Fellegi
Chief Statistician of Canada



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Highlights

■ Working overtime in today's labour market ... p. 9

- Between January and September 1997, almost 2 million employees worked about 18 million hours of overtime each week. The average number of overtime hours worked was 9.2 per week.
- More than half of all overtimeers (53%) were not paid or otherwise compensated for any of their overtime, while 45% were paid for all extra hours. Only 2% reported both paid and unpaid hours.
- Men's involvement in the overtime labour market is significantly greater than women's; for example, a higher proportion of male employees reported overtime (20% versus 14% of their female counterparts) and their weekly overtime hours tended to be longer than women's (9.9 hours on average, versus 8.1). As a result, men accounted for almost two in three overtime hours.
- The bulk of overtimeers (62%) were aged 25 to 44. Among the age groups examined, however, 15 to 24 year-olds were, by far, the most likely to receive pay for their overtime labour (70% did). The proportion dropped sharply to 47% among 25 to 34 year-olds, and 36% among 45 to 54 year-olds, rising slightly to 41% among those aged 55 and over.
- Of the occupations studied, teachers, managers and administrators, as well as professionals in natural sciences, engineering and mathematics, were the most likely to report extra hours (largely unpaid).
- On average, paid overtime hours were highest in the following industries: mining; construction; logging and forestry; agriculture; and the federal government (over 10 hours of paid overtime a week). Unpaid overtime hours were highest among employees in religious organizations and educational services (both over 11 hours weekly).
- Employees working full time were more apt to put in overtime than those working part time. The prevalence of overtime was also greater among employees holding permanent jobs, those working in large establishments, and those reporting high weekly earnings. Overtime was more likely to be paid for if the worker was unionized or paid by the hour.

- By province, overtime rates ranged from a low of 13% of employees in Prince Edward Island to a high of 21% in Alberta. Relatively high concentrations of overtimeers were found in the following metropolitan areas: Calgary, Kitchener-Waterloo, Ottawa-Hull, Saskatoon, Edmonton, Windsor, Victoria, Winnipeg and Hamilton.

■ The redistribution of overtime hours ... p. 25

- According to the November 1995 Survey of Work Arrangements, 1.5 million or 14% of paid workers reported regularly working an average 5.6 hours of paid overtime weekly, for a total of 6.8 million hours. Assuming this overtime could be converted into jobs of 40.5 hours a week (the average number of weekly hours reported by full-time workers), the total hours could have given rise to 169,000 jobs, or could have dropped the unemployment rate from 8.7% to 7.5%.
- But these new hypothetical jobs would require relatively high qualifications. Discrepancies between the characteristics of the unemployed and those of the hypothetical jobs would therefore reduce the potential by several thousand jobs.
- Furthermore, if both occupation and province are taken into account, the potential 169,000 jobs could drop to 93,000. The unemployment rate would shift from 8.7% to 8.0%, instead of the 7.5% suggested by the most optimistic scenario.
- If paid overtime were reduced only for workers who were in favour of such a measure, fewer than 10,000 full-time jobs would be created, and the effect on the unemployment rate would go almost unnoticed.

■ Working more? Less? What do workers prefer? ... p. 32

- Two-thirds of Canadian paid workers were satisfied with their work hours in November 1995. However, 27% wanted more hours for more pay, while 6% preferred fewer hours for less pay. The preference for more hours held for workers in all provinces, age groups, education levels, occupations and industries.

- Close to 80% of men and over 50% of women working fewer than 30 hours per week preferred more hours. Also, low-paid workers were more likely to voice this preference than highly paid employees: roughly one-half of men paid less than \$10 per hour preferred more hours.
- Job permanency, workers' age and level of seniority also played an important role in determining work hour preferences. Roughly half of workers holding non-permanent jobs preferred more hours. One in two workers aged 15 to 24 also preferred more to fewer hours. A similar percentage was observed for workers with one to six months of job tenure.
- University graduates, professionals, managers and individuals employed in natural and social sciences were more likely than others to prefer fewer hours for less pay. So too were those with high hourly wage rates, many work hours, long job tenure, permanent jobs and jobs covered by pension plans.

■ Regional disparities and non-permanent employment ... p. 39

- In November 1995, 12% of paid workers had non-permanent jobs; that is, seasonal, temporary or casual employment or work obtained through temporary help agencies.
- Non-permanent work, like unemployment, is proportionately higher in the Atlantic provinces (20% of paid jobs) and, to a lesser extent, in Quebec (14%).
- Of all census metropolitan areas (CMAs), Vancouver had the lowest non-permanent job rate, at just 7%, while Victoria (22%), St. John's and Saint John (19% each), Ottawa (18%) and Québec (17%) had higher rates. The country's highest rate was in Newfoundland in communities not included in the St. John's CMA, where close to one-third (31%) of employees worked in non-permanent jobs.
- Overall, the best-paid non-permanent jobs were temporary positions, paying an average of \$14.63 an hour. Seasonal work paid an average of \$11.93 per hour, casual or on-call jobs, \$10.04. The best-paying non-permanent jobs among CMAs were in Vancouver, at \$15.06 an hour, and the lowest in Halifax, at \$8.50 an hour.
- Permanent positions were more likely than non-permanent jobs to include benefits such as employer-sponsored pension plans, health insurance, dental

insurance and paid sick leave, although in Saskatchewan, Quebec and Newfoundland a larger proportion of both permanent and non-permanent jobs featured benefits packages. These three provinces were also heavily unionized.

■ A statistical portrait of the trade union movement

... p. 45

- During the first nine months of 1997, an average of just over 3.5 million Canadians – or about a third of all employees – belonged to a union, according to new data from the redesigned Labour Force Survey.
- Union membership rose fairly steadily from 2.1 million in 1967 to a peak of 3.8 million in 1990 and has declined slowly since then. Throughout the 30-year period, however, the rate of union membership varied only slightly: between 31% and 33%. While membership among men has fallen, the overall rate has held steady thanks to the substantial growth among women.
- On average this year, 73% of employees in the public sector belonged to a union, more than three times the proportion in the private sector (22%).
- About 4 in 10 blue-collar workers belong to a union today, compared with 3 in 10 white-collar workers. Among the latter, half of professional workers, such as teachers and nurses, belong to a union – the highest level for any of the occupational groups studied.
- High unionization rates are found among those aged 45 to 54 and those with long job tenure. Both are a reflection of high ratios observed in an aging blue-collar and public sector workforce.
- Newfoundland and Quebec have high unionization rates, while Ontario and the three Maritime provinces have below-average rates. Alberta has the lowest.
- Unionized jobs generally provide higher wages, greater non-wage benefits and better work arrangements than do non-unionized jobs. However, not all of these differences can be attributed to union status.
- Labour unrest appears to be on the rise, following a prolonged "cooling off" period. In 1996, 3.3 million person-days were lost because of strikes and lockouts, more than twice the level of 1.6 million the year before. In the first six months of 1997, 1.3 million person-days had already been lost.

■ What's new?

... p. 61

- The Homeowner Repair and Renovation public-use microdata file is available. It uses data from the Homeowner Repair and Renovation Survey and the Home Energy Retrofit Survey. Both were carried out in March 1996 but refer to the calendar year of 1995.
- *Employment Dynamics, 1995* includes data on employer-businesses, and payroll and employment by province, territory and industry. It is based on the Longitudinal Employment Analysis Program (LEAP), which covers all businesses with at least one employee between 1983 and 1995.
- *Characteristics of Dual-earner Families, 1995* looks at the growing income gap between dual-and single-earner two-partner families. Microdata files containing data on the 1995 incomes and earnings of economic families and individuals, along with sociodemographic characteristics, are also available.
- *Seniors' Income, 1995* provides income and demographic information by province or territory; city, town or census metropolitan area; census division; forward sortation area; and postal walk. *Labour Force Income Profiles, 1995*, also based on data from income tax returns, supports market research and policy planning.
- Women are less likely today than in past decades to interrupt their paid work. In addition, those who do so, return to work more quickly. This is the main finding in "Changes in women's work continuity," an article in *Canadian Social Trends* released in Autumn

1997. Another article in that issue, "Declining earnings of young men," looks at the decline in the real earnings of male workers under age 35 that began in the 1980s, as well as the legacy of weaker earning power that has been left to young workers in the 1990s.

- The third issue of *Labour Force Update* explores emerging trends in self-employment. For example, between 1989 and 1996, the self-employed accounted for over three-quarters of total job growth. In contrast to the 1980s, most of this increase has been among business owners without employees.
- The Analytical Studies Branch has released four new research papers. *Divergent Inequalities – Theory and Empirical Results* is principally about methods of income distribution analysis, particularly the foundations for claims about the extent of or trend in inequality. The key question addressed in *Are Canadians More Likely to Lose Their Jobs in the 1990s?* is "have permanent layoffs in Canada increased in the 1980s and early 1990s compared with the late 1970s?" In *Permanent Layoffs in Canada: Overview and Longitudinal Analysis* the underlying causes of most permanent layoffs are addressed, along with whether most permanent layoffs are rare events for workers, or a continuation of repeat layoffs. *The Importance of Research and Development for Innovation in Small and Large Canadian Manufacturing Firms* examines differences in the innovation profiles of small and large firms, and looks at how R & D intensity and efficacy vary by size of firm. □

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Working overtime in today's labour market

Doreen Duchesne

On average, 1.5 million Canadians were unemployed between January and September 1997. Yet over the same period, almost 2 million Canadians worked about 17.6 million hours in excess of their standard or scheduled hours each week – an amount equivalent to 5% of all non-overtime hours worked. Not only have unemployment rates remained high, despite the economic recovery from the recession of the early nineties, but many people who already have jobs are underemployed.¹ Paradoxically, in this same labour force, a number of others feel overburdened by long hours at work.

Dual-earner couples and working single parents are particularly vulnerable to stress and fatigue when they find themselves with too few hours at the end of the day to deal with family and other household responsibilities (Frederick, 1995). But some of them need to work long hours to make ends meet. Other employees toil those extra hours – often without pay – because they believe they must, to obtain promotions, get the work done, or simply keep their jobs in an economic climate of cost-containment and downsizing. And then there are those who put in long hours because they enjoy their work.

There have been suggestions that a reduction in regular full-time hours throughout the workforce would address the problems associated with polarized work hours (that is, high concentrations of workers with too many or too few hours). Similarly, it has been proposed that the substitution of new jobs for overtime labour could reduce or even eliminate unemployment and underemployment (Rifkin, 1995).

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A recent study, however, indicates that relatively few workers would choose to work fewer hours for less pay (Drolet and Morissette, 1997a and 1997b). Furthermore, a companion article in this issue of *Perspectives* (Galarneau, 1997) concludes that the conversion of paid overtime hours into new jobs would only marginally improve the unemployment rate, because of the mismatch between the characteristics (such as skills and location) of many of the unemployed and those of paid overtime workers. Finally, for many employers, hiring additional workers to handle extra tasks is more expensive than paying current employees a premium for overtime.²

This article contributes to the debate by showing how many paid or unpaid overtime hours are worked each week and by whom. It also looks at the types of jobs these people perform. Differences between paid and unpaid overtime are noted where appropriate. The profile, based on Labour Force Survey (LFS) data on paid workers (employees) aged 15 and over, covers the January-to-September 1997 period (see *Data source, notes and definitions*). Although most of the findings have been condensed into nine-month averages, a few focus on monthly variations.

Overview

The first set of highlights illustrates the number of employees working overtime in any given week and the volume of extra labour performed. It also reveals notable differences between paid and unpaid overtime, which are explored in greater detail in subsequent sections.

- Over 1.9 million out of a total 11.4 million paid workers (17%) worked overtime in a typical week in 1997. More than half (53%)

were not paid or otherwise compensated for any of their overtime,⁶ while 45% were paid for all extra hours. Only 47,000 (2%) reported both paid and unpaid hours (Table 1).

- On average, 8.8 hours of overtime were reported weekly by those who were reimbursed for all of their extra work; an even greater amount of time was contributed by those who were not compensated for any overtime (9.5 hours). Those few reporting both paid and unpaid hours worked an extra 12.7 hours weekly (Table 2).
- The majority of overtime workers worked, at most, 10 extra hours weekly: 36% (692,000 employees) put in 1.1 to 5 hours, and 33% (633,000) worked 5.1 to 10 hours. Nevertheless, 15% (282,000) logged in over 15 extra hours in a typical seven-day period (Table 3).
- Overtimers with all hours paid for reported 7.5 million overtime hours each week, while their unpaid counterparts performed 9.5 million hours of work free of charge. An additional 598,000 extra hours were put in by overtime workers reporting combined amounts of paid and unpaid overtime (Table 8).
- The total amount of overtime reported in the course of a week (17.6 million hours, on average) was equivalent to 4.8% of non-overtime hours actually worked by all employees (364.3 million hours), and 25% of non-overtime hours logged by overtime workers alone (70.7 million hours).

In the rest of this report, paid overtime means that all extra hours worked were compensated; similarly, unpaid overtime means that none of the overtime hours were paid for by the

Data source, notes and definitions

Data for this article were derived from a single source, the Labour Force Survey (LFS). The most recent redesign of the LFS, fully implemented in January 1997, allows for the collection of additional information on the respondent's job, including the occurrence and amount of paid and unpaid overtime, unionization, job permanency, establishment size, earnings, and whether or not the employee is paid by the hour.

The LFS questions specifically dealing with overtime read as follows:

"Last week, how many hours of paid overtime did ... work at this job?"

"Last week, how many extra hours without pay did ... work at this job?"

This study focuses exclusively on paid workers, that is, employees who earn a wage or salary or are paid in some other fashion, including tips and commissions. The self-employed and unpaid family workers are excluded; among the former, hours and pay are self-determined and often fluctuate, while for the latter, all hours (both regular and overtime) are unpaid, although the worker is deemed to benefit economically from the family business.

A few paid workers were excluded from the analysis if they held more than one job at the same time (that is, were multiple jobholders) but were self-employed or unpaid family workers in their main job (the one with the most hours). In the case of multiple jobholders who were paid workers

in both their main and other job(s), the characteristics and hours of only the main job were taken into account.

Just over 8% of paid workers were absent during the entire reference week. An argument can be made for excluding these absentees from the paid worker totals used to calculate overtime rates on the grounds that some of them might also have worked overtime had they been on the job; such an exclusion would have the effect of marginally raising the overtime rates shown here.³ In this study, however, absentees have been included in the calculation of rates for several reasons: some people who reported overtime may have done so only because they were replacing others who were absent; in any given week many employees will be absent, who should be taken into account if the objective is to measure the general propensity of the workforce to engage in overtime; and, finally, the removal of full-week absentees would require a complex adjustment for part-week absentees.

Given the presence of seasonal influences in the economy and the fact that this study does not cover a full calendar year, the incidence of overtime may be over- or underestimated in some industries and occupations; for example, retail trade does its best business in the Christmas season, which is outside the study period.

The stage in the business cycle reflected in a labour market study can affect results, since the demand for extra labour rises in a period of expansion and

falls in a recession. The period covered in this article is one of moderate expansion.

Finally, irregular or unexpected occurrences, such as work stoppages or natural catastrophes (floods, for example), can result in a reduction or surge in overtime in specific industries, occupations or locales.

Definitions

Usual hours worked: the number of weekly hours normally paid or contracted for, excluding overtime.⁴

Actual hours: the number of hours actually worked by a respondent during the reference week, including paid and unpaid overtime and excluding time off work for any reason.

Overtime hours: extra hours worked during the reference week beyond standard or scheduled hours; also referred to as excess hours.

Paid overtime: overtime hours for which the employee was paid or otherwise compensated (for example, time off, payment in kind).

Unpaid overtime: overtime hours for which the employee was not paid or otherwise compensated.

Full-time worker: a person who works 30 or more hours a week. In the case of a multiple jobholder, only the hours of the main job (the one with the most hours) are used to determine full- or part-time status.⁵

employer. Those few findings based on persons reporting both paid and unpaid overtime hours are specifically identified as such.

Men are more likely than women to work overtime

Although many women put in extra hours, men's involvement in overtime work is significantly greater (men account for almost two in three overtime hours). This disparity stems, in

part, from the types of jobs typically held by women; for example, women are more likely than men to work part time and they are found in higher-than-average concentrations in some industries and occupations. (The link between overtime work and job characteristics is examined later in this article.) In addition, women typically shoulder more family responsibilities than do men, which limits the amount of time available for overtime (Frederick, 1995).

■ In 1997, 20% of male employees reported overtime, versus 14% of their female counterparts. Not only did men predominate among overtime workers, but their overtime hours also tended to be longer than those of women: 9.9 hours, on average, compared with 8.1 (Tables 1 and 2).

■ Men were significantly more likely than women to be paid for their extra hours. About half of

Table 1
Characteristics of employees working overtime

	All employees	Total	Overtime workers		
			With all hours paid	With all hours unpaid	With both paid and unpaid hours
'000					
Total	11,414	1,912	860	1,005	47
Sex					
Men	6,010	1,182	603	550	29
Women	5,404	730	257	455	18
Age					
15 to 24	1,888	181	126	51	4
25 to 54	8,640	1,611	685	884	42
25 to 34	3,114	576	271	289	16
35 to 44	3,236	608	260	332	16
45 to 54	2,289	426	154	262	9
55 and over	887	121	49	70	--
Family status					
All families	9,690	1,552	703	814	35
Husband-wife families	8,509	1,396	627	738	31
With children *	4,537	823	362	442	19
Some preschoolers **	1,682	308	147	154	6
No preschoolers	2,856	516	214	288	13
Without children	3,972	573	265	296	12
Lone-parent families	692	93	44	46	3
Other families †	490	63	32	30	2
Unattached individuals	1,724	360	157	191	12

Source: Labour Force Survey, January-to-September 1997 averages

Note: The "all employees" column also includes those who worked all or part of the reference week but did not work overtime, as well as those who were absent all week.

* Under 25 years and living at home.

** Under 6 years.

† For example, two siblings living together.

the 1.2 million men with overtime were remunerated, compared with one in three of the 730,000 women (Chart A).

Unpaid overtime increases with age

Survey results show variations by age in the prevalence and amount of overtime reported. Many employed youths are still in school and have relatively little opportunity to engage in overtime; furthermore, youths with limited job attachment (that is, in temporary or part-time positions) may be less inclined to volunteer labour. At the other end of the age spectrum, some workers may choose to work shorter

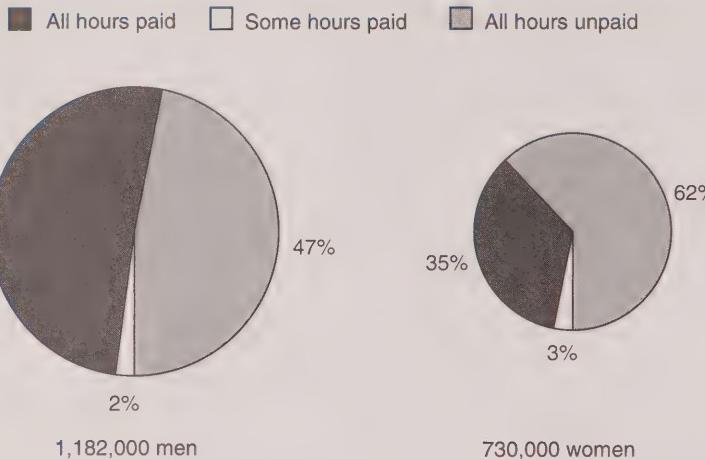
hours as they ease into retirement, while others may not be able to work extra hours because of ill health. Also, by the time workers are ready to withdraw from the labour market, costly family responsibilities have usually declined.

- The bulk of overtimeers (62%) were aged 25 to 44. Both young and older workers were under-represented; for example, youths aged 15 to 24 and employees aged 55 and over combined accounted for 24% of all paid workers but only 16% of overtimeers.
- Among those reporting overtime hours, 15 to 24 year-olds were,

by far, the most likely to receive pay (70% of them did). The proportion dropped sharply to 47% among 25 to 34 year-olds, and 36% among 45 to 54 year-olds. It then rose slightly among those aged 55 and over (41%).

- The average number of paid overtime hours fluctuated mildly across age groups: from 8.5 among 35 to 44 year-olds to 9.0 among those aged 25 to 34. In contrast, the amount of unpaid overtime rose with age: from 8.1 hours for youths to 10.6 hours for those aged 55 and over (Table 2).

Chart A

Women are less likely to be paid for extra labour.

Source: Labour Force Survey, January-to-September 1997 averages

Table 2
Average weekly overtime hours by selected employee characteristics

	Overtime workers			
	Total	With all hours paid	With all hours unpaid	With both paid and unpaid hours
Total	9.2	8.8	9.5	12.7
Sex				
Men	9.9	9.3	10.4	14.2
Women	8.1	7.4	8.3	10.3
Age				
15 to 24	8.6	8.8	8.1	11.0
25 to 54	9.2	8.7	9.5	12.8
25 to 34	9.2	9.0	9.2	12.4
35 to 44	9.1	8.5	9.4	13.9
45 to 54	9.4	8.6	9.9	11.4
55 and over	9.9	8.8	10.6	--
Family status				
All families	9.2	8.7	9.5	12.7
Husband-wife families	9.3	8.8	9.6	12.9
With children *	9.4	8.8	9.7	13.3
Some preschoolers **	9.5	9.1	9.7	13.0
No preschoolers	9.3	8.7	9.7	13.4
Without children	9.3	8.8	9.6	12.3
Lone-parent families	8.1	7.9	8.2	10.7
Other families †	9.0	8.5	9.4	12.7
Unattached individuals	9.1	8.8	9.2	12.7

Source: Labour Force Survey, January-to-September 1997 averages

* Under 25 years and living at home.

** Under 6 years.

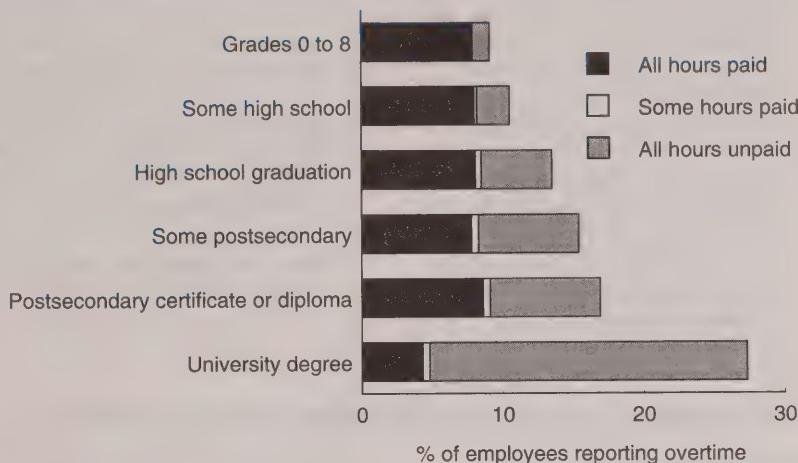
† For example, two siblings living together.

Overtimers⁷ are less likely to be from lone-parent families

There is a supply side (employee-driven) as well as a demand side (employer-driven) to overtime. When overtime is required to meet a deadline or a surge in demand for goods or services, the request for extra hours is generally initiated by the employer, particularly in the case of paid overtime. In contrast, the willingness of an employee to work overtime is, to a large degree, affected by personal and family circumstances, such as time availability (particularly for lone parents) and the worker's economic situation. The following observations show how the prevalence of overtime differs by family composition.

- In 1997, almost three-quarters of those who worked overtime lived in husband-wife families (with or without children), reflecting their proportion in the pool of all paid workers. Overtimers in these families tended to report slightly longer hours than those found in other family groupings, including unattached individuals.
- Nearly one in five employees living in husband-wife families with preschoolers worked extra hours. Paid overtimers in these families toiled an average 9.1 overtime hours weekly, while their unpaid counterparts volunteered 9.7.
- Unattached individuals were more likely to report overtime than workers living in families (21% versus 16%). Although the unattached include never-married singles, who exhibit relatively low overtime rates, this group also includes widowed, separated or divorced individuals who are not living with other family members.
- Only 13% of workers from lone-parent families worked overtime and those who did worked fewer hours (either 7.9 paid or 8.2 unpaid hours, on average) than their counterparts in other family situations.

Chart B

Unpaid overtime is more prevalent among university graduates.

Source: Labour Force Survey, January-to-September 1997 averages

University graduates are seldom paid for extra labour

A strong relationship exists between an employee's educational attainment and his or her opportunity or inclination to work overtime, perhaps because education is, in turn, closely associated with occupation. Furthermore, among overtimers, sharp

distinctions based on the education-job connection exist between paid and unpaid overtime. This section examines the issue of overtime in terms of education only.

- The propensity to work overtime rises with an employee's educational attainment. For example, 9% of workers with a primary school

education reported overtime hours, while 13% of those with a high school diploma did so (Chart B). Over one in four paid workers with a university degree reported extra hours, a significantly greater proportion than those with a postsecondary certificate or diploma (27% versus 17%).

- The positive relationship between educational attainment and overtime was traced to unpaid labour. Indeed, unpaid overtime rates ranged from 1% of paid workers with a primary school education to 22% of those with university credentials.
- The average weekly number of overtime hours worked was greatest among university graduates (10.4), followed by overtimers with a primary school education (9.2).
- Overtime workers with less formal education were almost always paid for their excess hours: for example, 86% of overtimers with primary school received pay for all hours, compared with half of those with a postsecondary certificate or diploma. In contrast, university degree holders were rarely paid for overtime labour (only 16% were paid for all extra hours).

Table 3
Distribution of overtime workers by extra weekly hours worked

Extra weekly hours worked	Total	Overtime workers		
		With all hours paid	With all hours unpaid	With both paid and unpaid hours
Total	1,912	860	1,005	47
0.1 to 1	86	46	40	--
1.1 to 5	692	315	369	9
5.1 to 10	633	292	325	16
10.1 to 15	219	89	121	9
15.1 to 20	166	67	93	6
20.1 to 25	44	20	22	3
25.1 to 30	36	16	18	2
Over 30	36	16	17	2

Source: Labour Force Survey, January-to-September 1997 averages

Teaching leads overtime-prone occupations

Although overtimers are found in all fields of work, they tend to be concentrated in management and certain professions – jobs often requiring higher educational credentials. In other occupations, overtimers are relatively few in number, but they account for a high proportion of employment. Employees most likely to put in overtime are often among the least likely to receive payment for their efforts, however, unless they happen to be employed in a blue-collar occupation.

- Half of all persons reporting overtime were in professional (25%) or managerial and administrative (24%) occupations. An additional 15% worked in processing, machining or product fabricating, and 11% were in clerical jobs (Table 4).
- Of all occupations examined, teaching was the most likely to entail extra hours (over 28% of teachers worked overtime between January and September 1997); furthermore, these hours were rarely paid for (95% of teachers were not paid for any overtime).
- A high proportion of managers and administrators also worked excess hours (28% of paid workers), followed by professionals in the natural sciences, engineering and mathematics (27%). The vast majority (84%) of managers and administrators were not paid for any of their overtime, nor were most professionals (73%).
- The prevalence of overtime was also well above average in the following occupations: mining (23% of employees worked overtime), machining (23%), religion (21%), and social sciences⁸ (20%).
- Overtime was usually financially rewarded in the first two occupational groups (in 86% and 94% of cases, respectively); in contrast, overtimeers in religious and social science occupations habitually worked excess hours free of charge (93% and 79%).
- Workers in service occupations,⁹ farming, clerical jobs or vocations related to medicine and health (excluding psychologists and social workers, who are classified elsewhere) were the least likely to work overtime.

Table 4
Average weekly overtime hours by occupation

	All employees	All overtimers		All hours paid		All hours unpaid		Both paid and unpaid	
		Number	Average hours	Number	Average hours	Number	Average hours	Number	Average hours
	'000	'000		'000		'000		'000	
All occupations	11,414	1,912	9.2	860	8.8	1,005	9.5	47	12.7
Managerial and administrative	1,657	459	10.1	65	8.6	384	10.2	9	13.1
Professional	2,268	478	9.8	115	8.8	349	10.1	14	12.3
Natural sciences, engineering and mathematics	510	137	9.2	50	9.3	80	8.7	6	13.9
Social sciences	253	51	8.4	9	7.9	40	8.3	2	12.7
Religion	39	8	14.4	--	--	8	14.5	--	--
Teaching	618	175	11.7	7	12.6	167	11.7	2	12.3
Medicine and health	653	77	7.4	38	7.8	36	6.8	3	9.3
Artistic, literary and recreational	195	29	9.3	11	7.9	17	10.0	--	--
Clerical	1,839	201	6.6	109	7.1	86	5.7	7	9.9
Sales	981	122	8.2	42	7.7	77	8.4	3	10.6
Service	1,503	122	8.4	77	8.0	40	8.1	5	15.5
Primary occupations *	252	31	12.8	24	13.1	7	11.4	--	--
Farming	147	13	10.1	8	10.1	4	9.8	--	--
Forestry and logging	39	5	11.0	4	10.9	--	--	--	--
Mining	55	13	15.8	11	16.1	2	13.3	--	--
Processing, machining and product fabricating	1,565	283	8.9	247	8.9	32	7.9	5	13.6
Processing	339	52	8.6	44	8.6	7	8.3	--	--
Machining	218	50	9.8	47	9.8	3	8.6	--	--
Product fabricating	1,008	180	8.7	155	8.7	22	7.7	3	13.9
Construction	467	77	10.6	66	10.7	9	9.3	2	14.8
Transport equipment operating	417	67	9.8	54	9.3	11	10.8	2	16.7
Material handling and other crafts	465	73	8.4	62	8.5	9	7.4	2	9.3
Material handling	319	46	8.2	42	8.3	3	7.0	--	--
Other crafts **	146	26	8.8	19	9.1	6	7.7	--	--

Source: Labour Force Survey, January-to-September 1997 averages

Note: The "all employees" column also includes those who worked all or part of the reference week but did not work overtime, as well as those who were absent all week.

* Also includes fishing and trapping.

** Printing and equipment operating (not classified elsewhere).

- Overtimers in machining occupations were the most likely to receive pay for extra hours (47,000 workers, accounting for 94% of this occupation's overtimers), followed by material handling (42,000 or 92%), construction (66,000 or 86%), product fabricating (155,000 or 86%), mining (11,000 or 86%) and processing (44,000 or 85%).
- Paid overtime hours were longest in the mining occupations (16.1 hours weekly, on average), followed by teaching (12.6 hours), forestry and logging (10.9), construction (10.7) and farming (10.1).
- Unpaid hours reached their maximum in religious occupations, where overtimers averaged 14.5 hours each week without pay. Unpaid overtimers in mining occupations volunteered an extra 13.3 hours weekly, closely followed by teaching staff (11.7 hours) and transport equipment operating workers (10.8 hours).
- Within the CBPS industry grouping, educational services accounted for over one in three employees reporting overtime. An additional 40% worked in business services or hospitals and related services¹⁰ (Table 5). Overtime in business services was concentrated in architectural, engineering and other scientific and technical services, computer services, accounting and bookkeeping services, and offices of lawyers and notaries.
- Within manufacturing, one in five overtimers was found in the transportation equipment industries (mainly motor vehicles, motor vehicle parts and accessories, and aircraft and aircraft parts). Over one in five manufacturing overtimers laboured in one of the following industries: communication and other electronic equipment; other machinery and equipment (for example, construction, mining and sawmill machinery); commercial printing; pulp and paper; primary steel; and sawmill, planing mill and shingle mill products.¹¹
- Apart from exploring which industries account for most overtimers, it is useful to examine the prevalence of overtime within industries. Educational services were overrepresented among employees working overtime: this industry accounted for 12% of overtimers in all industries but only 8% of paid workers. Indeed, in 1997, one in four employees in educational services reported overtime; for most of them, this work was unpaid (out of 225,000 working overtime, 207,000 were unpaid).¹²
- The incidence of overtime was also high (about one in four employees) in the communication industries¹³ (mostly unpaid); consumer durables manufacturing (mostly paid); and mining (mostly paid). Over one in five employees in business services, the federal government, and wholesale trade also worked extra hours (mostly unpaid).
- Within consumer durables, overtime rates were particularly high in motor vehicle manufacturing (33% of employees); ready-mix concrete (32%); hardware, tool and cutlery manufacturing (32%); aircraft and aircraft parts (31%); office furniture (30%); and motor vehicle parts and accessories (27%).
- In some industries, a scarcity of overtime pay may be associated with a low rate of unionization: only 8% of employees in business services and 11% of paid workers in wholesale trade were unionized or covered by a collective agreement – rates well below the all-industry average of 34%. In other industries, however, the lack of overtime pay may be due, in part, to the fact that many of the jobs are held by professionals and managers who are expected to put in extra hours without compensation. For example, 73% of federal government employees and 47% of paid workers in the communication industries were unionized or covered by an agreement, yet overtime was usually unpaid.
- Paid overtime hours were highest in mining, at 14.5 extra hours weekly, followed by construction (11.0 extra hours), logging and forestry (10.8), agriculture (10.3) and the federal government (10.1).
- Overtimers employed in religious organizations worked the greatest number of unpaid hours (12.9 per week), followed by those in educational services (11.3 hours).

Being an hourly rated employee makes a difference

In 1997, 61% of all paid workers (6.9 million employees, on average) were hourly rated (that is, paid by the hour).

Table 5
Average weekly overtime hours by industry

	All overtimers			All hours paid		All hours unpaid		Both paid and unpaid	
	All employees	Number	Average hours	Number	Average hours	Number	Average hours	Number	Average hours
		'000	'000						
All industries	11,414	1,912	9.2	860	8.8	1,005	9.5	47	12.7
Goods-producing	3,003	589	9.6	395	9.5	182	9.5	11	13.4
Agriculture	125	12	10.3	7	10.3	4	10.5	--	--
Other primary industries *	237	49	12.6	31	13.8	17	10.1	--	--
Logging and forestry	61	10	10.5	6	10.8	3	9.3	--	--
Mining	162	38	13.0	25	14.5	13	9.9	--	--
Manufacturing	2,043	427	9.0	290	8.7	130	9.5	7	13.2
Durables **	1,044	249	9.2	183	8.9	61	9.8	5	13.8
Transportation equipment	292	82	9.7	68	9.4	13	10.9	2	13.4
Non-durables ***	999	179	8.7	107	8.3	69	9.2	3	12.1
Construction	464	73	10.7	53	11.0	19	9.7	--	--
Other utilities	135	27	9.4	13	9.6	12	8.8	--	--
Service-producing	8,411	1,323	9.1	465	8.1	823	9.5	36	12.5
Transportation and communication	767	141	9.2	77	8.7	59	9.5	4	12.9
Transportation and storage	476	76	9.8	49	9.7	25	9.6	3	14.1
Communication	183	47	8.8	17	7.8	29	9.4	--	--
Postal and courier services	108	17	7.3	11	5.9	6	10.0	--	--
Trade	1,926	251	8.3	118	7.5	128	8.9	5	12.0
Wholesale	526	108	8.6	47	7.8	59	9.0	2	13.9
Retail	1,400	143	8.1	70	7.3	69	8.8	3	10.7
Finance, insurance and real estate	664	126	8.4	29	6.8	93	8.8	4	11.1
Community, business and personal services	4,253	662	9.5	191	8.3	456	9.9	15	11.8
Educational services	920	225	11.2	15	9.6	207	11.3	2	12.3
Hospitals and related services	1,031	132	7.8	50	8.2	77	7.4	5	10.1
Offices of health practitioners	167	18	6.1	7	6.9	10	5.5	--	--
Religious organizations	76	12	12.3	2	9.4	10	12.9	--	--
Amusement and recreation	181	21	9.5	10	8.6	10	10.1	--	--
Business services	646	135	9.6	46	9.0	85	9.7	4	12.7
Personal services †	942	77	7.9	42	7.1	32	8.6	2	12.9
Miscellaneous services ‡‡	290	43	9.1	19	8.5	23	9.4	--	--
Public administration †††	801	144	8.9	50	9.0	87	8.3	7	14.5
Federal government	273	57	9.5	17	10.1	36	8.6	4	15.1
Provincial government	243	42	8.7	11	8.4	29	8.5	2	13.6
Local government	283	45	8.3	22	8.5	21	7.6	2	14.1

Source: Labour Force Survey, January-to-September 1997 averages

Note: The "all employees" column also includes those who worked all or part of the reference week but did not work overtime, as well as those who were absent all week.

* Also includes fishing and hunting.

** Wood and furniture industries, primary metal industries, fabricated metal products, machinery, transportation equipment, electrical and electronic products, and non-metallic mineral products.

*** Food and beverage manufacturing, rubber and plastic products, textiles, paper, printing and publishing, and petroleum and chemical products.

† Accommodation, food and beverage services, and personal and household services.

‡‡ Membership organizations (excluding religious organizations) and other industries, such as leasing services, and photographic and travel services.

††† Also includes diplomatic service and international organizations.

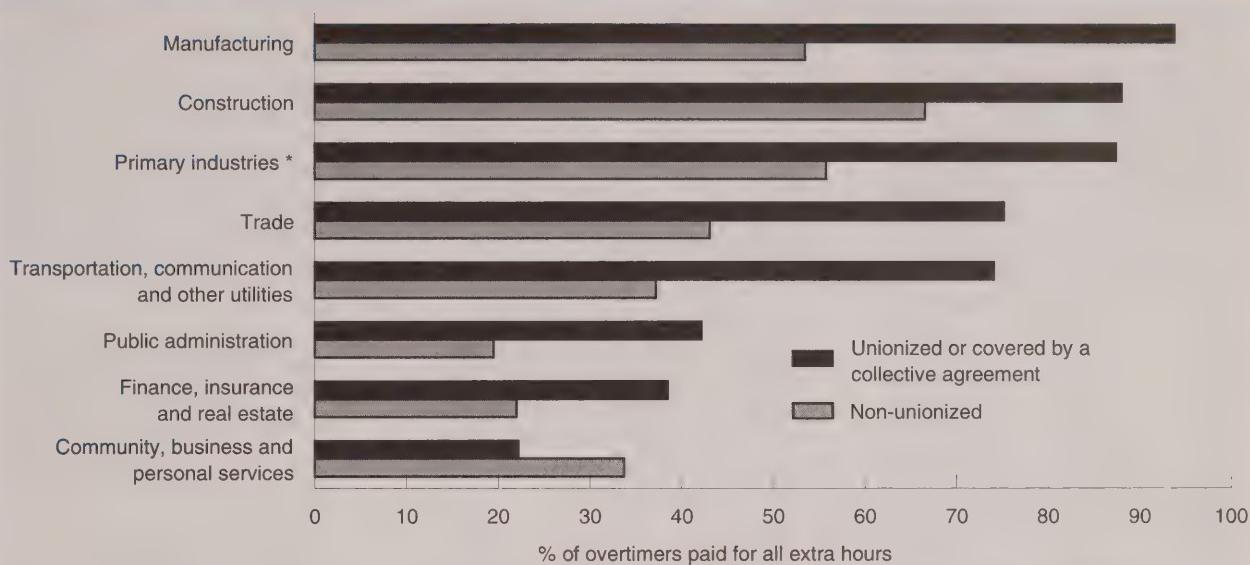
Among overtimers, however, only 47% were hourly rated; but this global observation hides very different patterns, which are observed when

overtime is broken down into its paid and unpaid components.

- The vast majority (81%) of the 860,000 workers reporting paid

overtime were hourly rated employees. In marked contrast, only 19% of 1.0 million unpaid overtimers were paid by the hour.

Chart C

Unionized workers are much more apt to be paid for extra hours.

Source: Labour Force Survey, January-to-September 1997 averages

* Agriculture, logging, forestry, fishing, hunting and mining.

- Half of hourly rated employees reporting paid overtime were found among the following occupational groups: product fabricating (20%), clerical (12%), service (10%) and construction (9%).
- Non-hourly rated employees with unpaid overtime were concentrated in management or administrative occupations (43%) and teaching (19%).
- Three-quarters of hourly rated employees with paid overtime were working in one of the following industries: manufacturing (such as transportation equipment, food, fabricated metal products, and wood industries), wholesale or retail trade, construction, hospitals, personal services, or transportation and storage.
- Non-hourly rated unpaid overtimeers were more highly concentrated in the service-

producing industries. Almost two in three were in educational services; wholesale or retail trade; finance, insurance or real estate; business services; or public administration.

Other job characteristics also come into play

In addition to occupation and industry, overtime activity is affected by a number of other interrelated job characteristics, such as full- or part-time status, unionization, job permanency, establishment size, usual hours and earnings. For example, full-time workers exhibit much higher overtime rates than part-timers, who are more likely to have irregular schedules (Siroonian, 1993), and thus more limited opportunities for overtime.

- In 1997, only 8% of part-time staff put in excess hours, compared with 19% of their full-time counterparts; nevertheless, when part-timers did work overtime, they

were more likely to be paid for it (52% received pay versus 44% of full-timers).

- Although the average usual weekly hours of part-time workers were much shorter than those of full-timers (17 hours versus 40), overtime hours were similar. When fully compensated, part-timers logged 8.7 hours of overtime and full-timers, 8.8. The corresponding estimates among those whose work was performed free of charge were 8.5 and 9.5 extra hours.
- Just under 3.9 million paid workers (34%) were unionized or covered by a collective agreement. The presence or absence of such an agreement did not appear to greatly affect the incidence of overtime work: 18% of paid workers who were unionized or covered by a collective agreement reported overtime, compared with 16% of those who were not.

- However, those who were unionized, or at least covered by an agreement, were generally more likely to be paid for overtime than their non-unionized counterparts (53% versus 41%). In some industries, this gap was considerable; for example, 94% of unionized overtimers in manufacturing and 74% of those in transportation, communication and other utilities received pay for all of their hours, compared with only 53% and 37% of non-unionized employees in these industries (Chart C).
- The community, business and personal service industries (CBPS) proved a notable exception to this pattern: only 22% of unionized overtimers were paid, in contrast to 34% of those non-unionized. This reversal was traced to the educational services component of the category, in which only 6% of unionized employees were paid for all of their overtime (this industry accounted for almost two-thirds of all unionized overtimers in CBPS).
- Other component CBPS industries followed the expected pattern: 61% of unionized employees in business services were awarded overtime pay, compared with only 32% of those non-unionized; in hospitals and related services, the corresponding proportions were 53% and 25%, and in personal services, 74% and 53%.
- Unionization did not appear to have much effect on overtime hours worked at the all-industry level. Paid overtimers logged in 8.7 extra hours weekly, on average, when they were unionized, and 8.8 when they were not; unpaid overtimers tended to put in marginally longer hours when they were unionized than when they were not (9.7 versus 9.4).

In an economic climate of downsizing and globalization, job security has become an important issue. To shed light on this topic, the redesigned LFS distinguishes between permanent and non-permanent jobs (for example, seasonal, contract, term or casual jobs). Survey results show almost 9 in 10 employees in permanent positions. They also indicate that the prevalence and extent of overtime are moderately associated with job permanency.

- Only 12% of those employed on a temporary or casual basis reported overtime, compared with 17% of those in permanent jobs. Workers in non-permanent jobs were somewhat more likely to be paid for extra hours, however (55%, versus 44%).
- When paid, employees in non-permanent jobs tended to report longer periods of overtime than staff in permanent situations (10.1 hours weekly, on average, compared with 8.6). On the other hand, when all hours went unpaid, employees in permanent

jobs were likely to put in slightly more time (9.5 hours versus 9.1).

Numerous studies have shown establishment size (that is, the number of employees at the location of employment) to be closely associated with other job characteristics, including pay, benefits, job security and training opportunities (Crompton, 1992; Morissette, 1991). LFS data also show a positive relationship between overtime rates and establishment size.

- For example, in 1997, 13% of employees working at sites with fewer than 20 workers reported overtime. In comparison, 21% of those employed in establishments with over 500 employees made this claim (Chart D).
- Overtime pay was only loosely linked with establishment size, however: 43% of overtimers in establishments housing up to 99 workers were paid for extra hours, compared with 48% of those in establishments with 100 or more staff.

Chart D
Employees in small establishments are less likely to work overtime.

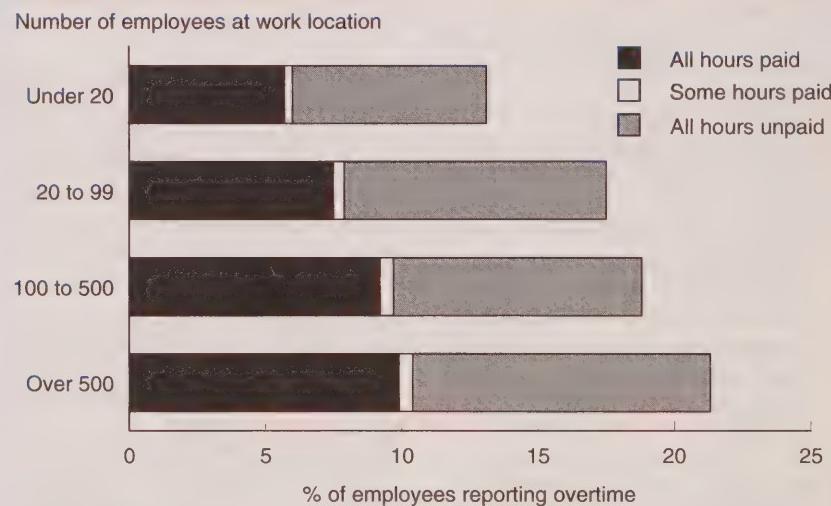


Table 6
Average weekly earnings* (excluding overtime) in selected industries and occupations

	All employees	Total	Overtime workers				Non-overtime workers **
			With all hours paid	With all hours unpaid	With both paid and unpaid hours		
			\$				
Total	573	734	610	840	715	530	
Full-time workers †	656	775	653	877	746	618	
Part-time workers	201	296	218	383	306	188	
Selected industries							
Agriculture	372	449	413	506	--	363	
Mining	871	920	812	1,129	--	847	
Manufacturing durables	684	772	694	1,000	842	651	
Transportation equipment	742	824	767	1,122	871	700	
Construction	652	722	710	760	--	636	
Communication	796	907	757	1,003	--	744	
Wholesale trade	601	715	569	835	658	569	
Educational services	706	837	570	859	650	624	
Hospitals and related services	552	675	569	744	660	529	
Religious organizations	464	551	403	578	--	449	
Business services	641	795	624	889	765	596	
Federal government	753	913	737	1,000	885	702	
Selected occupations							
Managerial and administrative	826	941	701	986	753	774	
Professional	694	817	702	856	789	647	
Natural sciences, engineering and mathematics	853	937	826	1,007	930	817	
Social sciences	665	759	592	800	690	635	
Religion	622	671	--	650	--	605	
Teaching	746	830	566	843	649	672	
Mining	839	819	810	874	--	826	
Processing, machining and product fabricating	603	673	662	742	791	582	
Machining	653	690	689	688	--	640	
Transport equipment operating	584	642	639	647	690	567	

Source: Labour Force Survey, January-to-September 1997 averages

Note: The "all employees" column also includes those who were absent during the entire reference week.

* Refers to usual weekly earnings from the main job (that is, if the employee had two or more jobs, the one involving the most hours was used in the calculation).

** Employees who worked all or part of the reference week but did not report any overtime.

† Usually working at least 30 hours weekly in the main job.

- Paid overtimeers employed by firms with up to 500 employees worked about 8.7 extra hours weekly, while those in establishments housing over 500 workers reported a bit more overtime (9.2 hours). When all hours went unpaid, the average amount of overtime did not appear to be related to firm size, although it peaked among the largest firms (9.9 hours in establishments with more than 500 workers).

Since working overtime depends, in part, on an employee's availability, workers with shorter usual hours might be thought more likely to log that extra time. In fact, survey data do not support this assumption at the global level, although these patterns may exist in some industries or occupations.

- Full-time workers were more than twice as likely as part-time workers to report overtime (19% versus 8%).

- Overtimers' usual hours in full-time jobs (excluding overtime) were not appreciably different from non-overtime workers' (39.6 weekly, on average, compared with 39.9). However, the usual hours of part-timers who reported overtime tended to exceed those of part-timers who did not (18.8 versus 16.8).

- Weekly earnings (excluding overtime earnings) were greater, on average, among overtimeers;

Table 7
Distribution of employees by overtime status and census metropolitan area (CMA)

	All employees	Overtime workers				
		Total *	With all hours paid	With all hours unpaid	Non overtime workers **	Absent all week
			'000	%		
Canada	11,414	17	8	9	75	8
All CMAs	7,643	17	7	10	74	8
St. John's	70	17	6	10	74	9
Halifax	147	19	6	12	74	8
Saint John	49	19	7	11	73	8
Chicoutimi-Jonquière	57	10	6	4	78	12
Québec	270	14	7	7	75	11
Trois-Rivières	54	11	7	4	77	12
Sherbrooke	57	12	8	4	78	10
Montréal	1,360	15	7	8	76	10
Ottawa-Hull	451	22	6	15	70	9
Sudbury	67	13	7	5	77	10
Oshawa	119	19	10	9	72	9
Toronto	1,868	16	6	10	77	7
Hamilton	264	20	8	11	72	9
St. Catharines-Niagara	140	15	10	5	76	9
London	174	17	8	9	74	9
Windsor	120	21	15	6	70	9
Kitchener-Waterloo	177	22	12	10	70	8
Thunder Bay	54	16	8	8	75	9
Winnipeg	305	20	8	11	71	8
Regina	88	16	7	9	76	8
Saskatoon	93	22	9	12	71	8
Calgary	376	22	9	13	70	8
Edmonton	398	21	9	11	71	8
Vancouver	763	17	6	10	74	9
Victoria	123	20	6	14	71	9
Non-CMAs †	3,771	16	8	7	76	9

Source: Labour Force Survey, January-to-September 1997 averages

* Includes overtime workers reporting both paid and unpaid hours.

** Employees who worked all or part of the reference week but did not report any overtime.

† Includes smaller urban centres and rural areas.

furthermore, they were significantly higher among those whose extra hours went unpaid: \$840 versus \$530 for non-overtime workers (Table 6). This disparity likely reflects the fact that unpaid overtime is more common among full-time workers and employees in managerial, administrative and professional occupations, which are associated with higher pay.

Multiple jobholders also work overtime¹⁴

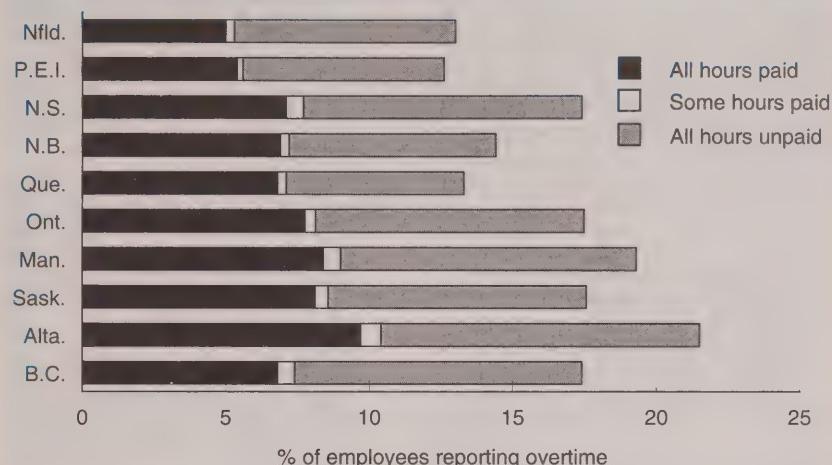
One in 20 paid workers covered in this report was a multiple jobholder in

1997, that is, a person holding more than one job at the same time. About two-thirds of all multiple jobholders were employed full time in their main job. Given the added burdens imposed by multiple jobs, was the typical multiple jobholder able to devote any time to overtime in his or her primary job?

■ The concentration of multiple jobholders among overtime workers was similar to that among paid workers in general. Out of 1.9 million employees reporting overtime in 1997, 91,000 (4.8%) were multiple jobholders.

- Single jobholders were not significantly more likely to work overtime than multiple jobholders: 17% of the former reported overtime, compared with 16% of the latter.
- Among those who did work extra hours, single jobholders were somewhat more apt to be remunerated than their multiple jobholding counterparts (45% versus 40%).
- Overtimers with only one job tended to work longer usual hours (38.0, on average) than did

Chart E
Overtime is somewhat more prevalent in the western provinces.



Source: Labour Force Survey, January-to-September 1997 averages

multiple jobholders in their main job (34.7). Single jobholders also put in more extra time at work, whether it was paid for (8.8 hours versus 8.5) or volunteered (9.5 and 8.0 hours, respectively).

- Overtimers with only one job tended to be better paid than those working at two or more jobs (\$739 weekly, compared with \$635 in a typical multiple jobholder's main job).

Overtime is somewhat more prevalent in western Canada

Although overtime rates vary by province, they tend to be highest west of Ontario. Rates in census metropolitan areas¹⁵ (CMAs) deviate to an even greater extent. These disparities may, to some degree, reflect different concentrations of industrial activity. Most of the observations in this section focus on CMAs, since together they accounted for almost 7 in 10 overtime hours in 1997 (12.2 million hours).

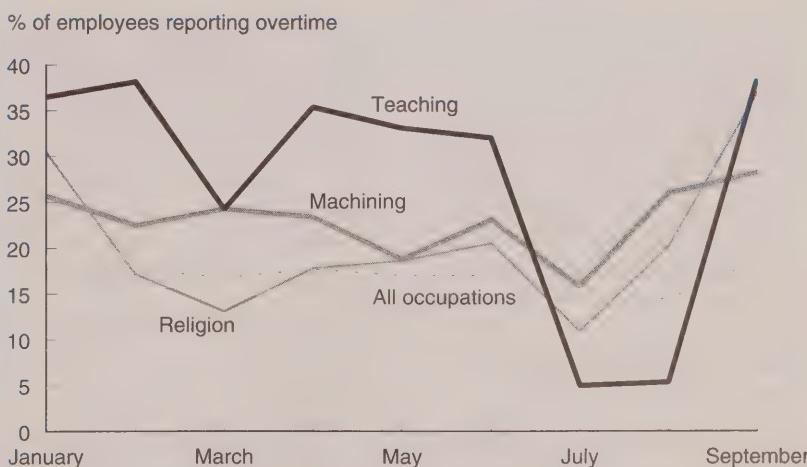
- Overtime rates ranged from a low of 13% in Prince Edward Island

in this region are self-employed in primary occupations and work long hours.¹⁶

- Next to residents of Prince Edward Island, Newfoundlanders and Quebecers were the least likely to put in overtime. A closer look by CMA reveals low overtime rates in Chicoutimi-Jonquière, Trois-Rivières and Sherbrooke (Table 7). Nevertheless, overtimers in Quebec were the most likely to receive pay for their extra hours: 51% did compared with only 39% of overtimers in Newfoundland.
- Relatively high proportions of overtimers were found in Calgary, as well as in Kitchener-Waterloo, Ottawa-Hull,¹⁷ Saskatoon, Edmonton, Windsor, Victoria, Winnipeg and Hamilton (where 20% to 22% of employees worked overtime).
- Paid overtime hours were longest in Windsor (10.1 hours weekly, on average), Edmonton (10.0) and Halifax (9.7), and shortest in Victoria (6.3) and Vancouver (7.1).

to a high of 21% in Alberta (Chart E). Although the proportion of employees reporting overtime was below the national average in all of the Atlantic provinces except Nova Scotia, many people

Chart F
The March and summer breaks account for the steep dips in overtime among teachers.



Source: Labour Force Survey, January-to-September 1997

Table 8
Monthly counts of overtime workers and their aggregate weekly overtime hours

	Total	With all hours paid	With all hours unpaid	With both paid and unpaid hours	Overtime rate *
'000					
Overtime workers					
January	1,938	788	1,099	50	17.7
February	1,946	822	1,080	44	17.7
March	1,857	834	975	48	16.8
April	1,965	824	1,098	44	17.7
May	1,952	862	1,045	46	17.0
June	2,003	912	1,046	46	17.0
July	1,661	828	783	50	14.0
August	1,718	909	768	42	14.5
September	2,166	963	1,148	55	18.6
January-to-September average	1,912	860	1,005	47	16.7
Overtime hours					
January	17,343	6,494	10,256	593	...
February	17,677	6,824	10,262	591	...
March	17,286	7,501	9,167	618	...
April	18,254	6,841	10,834	579	...
May	18,144	7,684	9,914	546	...
June	18,797	8,039	10,155	602	...
July	14,954	7,451	6,877	626	...
August	15,821	8,226	7,024	571	...
September	20,478	8,700	11,121	657	...
January-to-September average	17,639	7,529	9,512	598	...

Source: Labour Force Survey, January-to-September 1997

* The proportion of paid workers reporting paid or unpaid overtime.

- In contrast, as many as 12.4 hours of unpaid overtime were worked weekly, on average, by overtimers in St. John's, 10.8 by those living in Hamilton and Sudbury, and 10.5 by those in London. Overtimers from Chicoutimi-Jonquière and Victoria put in less free time (7.9 and 8.2 hours, respectively).

Monthly fluctuations are evident in some sectors

Some industries, such as agriculture, construction and educational services, are highly seasonal, while others operate on an even keel year-round.

Also, certain times are favoured for vacations, including the summer months and March break. Given that the demand by employers for paid overtime is likely governed by factors other than the supply by employees of unpaid overtime, to what extent do LFS data on overtime appear to exhibit seasonal or other fluctuations?

The number of workers reporting overtime in 1997 ranged from a low of 1.7 million in July to a high of 2.2 million in September (the most recent figure available at the time of the study). Similarly, overtime work reached its low point in July, at just under 15 million

hours, and peaked two months later, at over 20 million hours (Table 8).

- At an all-industry level, the monthly overtime rate was stable between January and June, ranging from 16.8% to 17.7%. It dropped several points in July and August, then rebounded to 18.6% in September.
- The number of unpaid overtimers (as well as their combined overtime hours) exhibited more volatility than that of their paid counterparts. Nevertheless, the general tendency over the nine months studied was for the total amount of paid and, to a lesser extent, unpaid overtime to rise slowly.
- Occupational data showed a sharp dip in the March and summer overtime rates of teaching staff, reflecting annual school breaks. In addition, monthly fluctuations were observed in religious and machining occupations (Chart F), forestry and logging, and the social sciences.
- Overtime rates also vacillated noticeably in certain industries. The prevalence of overtime in educational services dipped sharply in March, July and August. Other industries affected by seasonal or other influences were religious organizations, other utilities, and local government.
- The total number of paid overtime hours rose from 6.5 million in January 1997 to 8.7 million in September (Table 8), while unpaid overtime fluctuated between 6.9 million hours (July) and 11.1 million (September).

Summary

Almost 2 million employees work about 17.6 million hours of overtime each week. Over half of all overtime hours are provided free of charge. Men are more likely than women to

put in added hours, and the bulk of overtimeers are 25-to-44 year-olds. Nevertheless, the most important personal characteristic associated with overtime work appears to be educational attainment. Indeed, over one in four employed university graduates logs extra labour each week – most of it unpaid.

Occupation (which, in turn, is closely linked to educational attainment) is also strongly associated with overtime; furthermore, it frequently determines whether overtime is compensated. Although extra hours are found in every occupation (and industry), they are more numerous or prevalent in some sectors than others (in management and teaching occupations, for example). The prevalence of overtime is also sensitive to seasonal factors, specific calendar year events and other occurrences (for example, work stoppages). Other job characteristics affecting the likelihood of putting in extra hours (or being paid for them) include unionization, establishment size, job permanency and earnings.

The analysis in this article offers a simple overview of a complex topic. Multivariate data analysis is recommended for dealing with the intricate interrelationships among the many variables examined, as well as those not covered by this study (such as unemployment rates and fringe benefits). Furthermore, despite being a rich data source, the Labour Force Survey itself cannot provide all the information necessary for a complete analysis on this topic (for example, the reasons for working overtime). Nevertheless, the highlights presented here provide a useful starting point for more sophisticated analyses.



Notes

1 There are many ways to define and measure underemployment. For example, the Labour Force Survey considers part-time workers who have recently and unsuccessfully sought full-time employ-

ment to be underemployed. Based on this definition, an average 248,000 part-time employees (accounting for 12% of all part-timers) were underemployed in 1997.

2 For each employee, employers must pay payroll taxes; these include Employment Insurance premiums, Canada or Quebec Pension Plan contributions, Workers' Compensation premiums and, in some provinces, health and postsecondary education taxes (Lin, Picot and Beach, 1996). Many employers also incur added costs related to fringe benefits and overhead (for example, training and office furniture).

3 In an earlier study (Statistics Canada, 1997), employees absent throughout the LFS reference week were excluded from the population of paid workers on which overtime rates were based. Furthermore, paid workers reporting paid as well as unpaid overtime were included in both paid and unpaid overtime rates; as a result, the sum of the rates in the earlier study exceeds the percentage of employees performing any kind of overtime by the proportion reporting both types of overtime.

4 Prior to January 1997, usual hours derived from the LFS referred to the number of hours usually worked in a typical week, including paid and unpaid overtime.

5 Prior to January 1997, the combined hours worked at all jobs were taken into account.

6 Compensation can be awarded in many ways, including time off. In this article, all forms of compensation are included in the notion of paid (or unpaid) overtime.

7 This section is based on the family status of the paid worker reporting overtime. The categories examined are the following: husband-wife families (with and without children), lone-parent families, other families, and unattached individuals. The overtime may or may not be a family head (for example, the overtime could be a teenager living in a family headed by an unemployed single parent).

8 This category consists of economists, sociologists, psychologists, social workers, judges, lawyers, librarians, and related occupations.

9 These occupations include protective services, food and beverage preparation, lodging and other accommodation, personal services, apparel and furnishings (for example, laundering), and other services (for example, janitors and labourers).

10 Related services include nursing homes, homes for persons with mental or physical disabilities, sheltered workshops, crisis intervention and other services.

11 All of these – except for commercial printing and pulp and paper – are durable goods industries.

12 Although not all employees in educational services are teachers – and not all teachers are employed in educational services – this industry accounts for most teaching professionals.

13 These industries include radio and television broadcasting, cable television and telecommunication carriers (such as telephone services).

14 This section deals only with multiple jobholders who were paid workers in their main job (see *Data source, notes and definitions*).

15 A census metropolitan area is an urbanized core with a total population of at least 100,000, together with its main labour market area (determined by commuting patterns).

16 The self-employed are excluded from this report (see *Data source, notes and definitions*).

17 In the Ontario portion of this CMA, 24% of paid workers reported overtime; of these, almost three-quarters were not paid for their extra time. Many people who live in this area are professionals employed by the federal government, local universities and colleges, and high-tech industries.

References

Cohen, G.L. "Paid overtime." *Perspectives on Labour and Income* (Statistics Canada, Catalogue no. 75-001-XPE) 5, no. 3 (Autumn 1993): 11-16.

Crompton, S. "Studying on the job." *Perspectives on Labour and Income* (Statistics Canada, Catalogue no. 75-001-XPE) 4, no. 2 (Summer 1992): 30-38.

Drolet, M. and R. Morissette. *Working More? Working Less? What Do Canadian Workers Prefer?* Catalogue no. 11F0019MPE, no. 104. Ottawa: Statistics Canada, 1997a.

---. "Working more? Less? What do workers prefer?" *Perspectives on Labour and Income* (Statistics Canada, Catalogue no. 75-001-XPE) 9, no. 4 (Winter 1997b): 32-38.

- Frederick, J.A. *As Time Goes By ... Time Use of Canadians*. Catalogue no. 89-544-XPE. Ottawa: Statistics Canada, 1995.
- Galarneau, D. "The redistribution of overtime." *Perspectives on Labour and Income* (Statistics Canada, Catalogue no. 75-001-XPE) 9, no. 4 (Winter 1997): 25-31.
- Lin, Z., G. Picot and C. Beach. *The Evolution of Payroll Taxes in Canada: 1961-1993*. Catalogue no. 11F0019MPE, no. 90. Ottawa: Statistics Canada, 1996.
- Morissette, R. "Are jobs in large firms better jobs?" *Perspectives on Labour and Income* (Statistics Canada, Catalogue no. 75-001-XPE) 3, no. 3 (Autumn 1991): 40-50.
- Rifkin, J. *The End of Work: The Decline of the Global Labor Force and the Dawn of the Post-Market Era*. New York: G.P. Putnam's Sons, 1995.
- Siroonian, J. *Work Arrangements*. Catalogue no. 71-535-MPB, no. 6. Ottawa: Statistics Canada, 1993.
- Statistics Canada. "Unpaid and paid overtime: incidence and duration." *Labour Force Update*. Hours of Work. Catalogue no. 71-005-XPB. 1, no. 2 (Summer 1997): 25-31.

The redistribution of overtime hours

Diane Galarneau

Canada's unemployment rate has climbed steadily over the past 20 years. Stalling during periods of economic growth, it has resumed its climb during slowdowns, each time a few points ahead of the previous cycle.

At the same time, work hours have become increasingly polarized. According to the Labour Force Survey (LFS), part-time work rose by 35% between 1983 and 1995, compared with 19% for full-time work. The increase in involuntary part-time work, which reflects growing underemployment, practically doubled. The Survey of Work Arrangements (SWA) of November 1995 reveals that 28% of workers would have preferred more hours. Furthermore, according to the same source, 1.5 million Canadians regularly worked paid overtime.

A shortage of jobs and the polarization of work hours represent considerable economic and social costs. Thus, whether for the sake of equity or simply to reduce the costs associated with unemployment, some economists consider the redistribution of work hours among a growing number of available workers to be a partial solution to the unemployment problem.

With data from the 1995 SWA, this article considers how regular paid hours of overtime (see *About the data*) could be converted into full-time jobs (or full-time equivalents, FTE). These hypothetical jobs (created at a ratio of one hour freed to one hour created) are then distributed by province, occupation, and level of education. Finally, the study attempts to match these jobs with the number of unemployed by province and occupation; it shows that the

potential for job creation remains hypothetical, particularly if extra hours are given up voluntarily.²

Measures for reducing work hours

A number of measures for reducing work hours can be considered. These range from cutting the number of hours worked daily, weekly, or even yearly (by increasing the number of vacation weeks, for example), to eliminating or decreasing overtime and long hours, lowering the retirement

age, raising the mandatory number of years of schooling, and lengthening education leave. The more widespread use of part-time work, compensatory time off in the case of long hours (in lieu of salary compensation), and job sharing are among the possibilities.

Government regulations and individual or collective agreements are sometimes used to apply these measures, or an effort is made to have workers voluntarily reduce their work hours. Unlike some European

About the data

This article is based on data from the Survey of Work Arrangements (SWA)¹ conducted in November 1995. Sponsored by Human Resources Development Canada, the SWA was carried out by Statistics Canada as a supplement to the Labour Force Survey (LFS). In addition to the usual LFS variables, the SWA includes information on work hours (usual and actual, paid or unpaid, and paid or unpaid overtime), work schedules (regular day, night, shift work and so on), and working conditions (such as flexible time, working at home, job sharing, and non-salary benefits). It also includes a section on self-employment. Moreover, the SWA collects information on unpaid overtime. These hours have not been considered in this study, however, since they could hardly be converted to new paid jobs.

Only the **usual paid overtime** worked by all paid workers is considered. These hours reflect the situation in November 1995. If the study had been carried out at another time, the results could have been slightly different. The total includes only overtime worked in the main job. Extra hours worked in secondary jobs by moonlighters are therefore not considered.

Overtime hours have not been adjusted to take into account seasons or statutory holidays. With usual overtime

hours, however, it is possible to avoid some of the seasonal aspect of overtime.

Job-creation potential is calculated in **full-time equivalents (FTE)**. A total of 6.8 million hours of overtime were usually performed in a typical week in 1995. These hours have been divided by the average weekly working hours of full-time paid employees, namely, 40.5 hours for the November 1995 SWA. This results in a potential of 169,000 FTEs. Averages other than the 40.5 hours could have been used and would have resulted in different potentials. For example, had the minimum number of weekly hours for full-time employment been used (30 hours), the result would have been 228,000 jobs. Had the distribution of full- and part-time jobs (in November 1995) been considered, that is, 81% and 19%, respectively, as well as the average number of weekly work hours pertaining to these two types of employment (40.5 hours and 16.6 hours, respectively), the result would have been 215,000 potential jobs. The concept of FTEs has the advantage of being simple. That said, the number of FTEs obtained (169,000) is not fixed since, for example, some could be divided among two or more part-time employees, which, all things being equal, would raise the number of new employees.

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countries, the North American tradition does not seem to favour job sharing or the reduction of hours. Certain examples tend, moreover, to show that these measures are not very successful in Canada when applied on a voluntary basis (Huberman and Lacroix, 1996; Drolet and Morissette, 1997).

This article assesses only the potential for job creation through the conversion of paid overtime. The amount of the latter varies over an economic cycle. During a period of recovery, the growth in demand for goods exerts upward pressure on production and employment. Before new workers are hired, production is boosted through recourse to overtime. Usually, only when the growth in demand seems to have held are new workers hired. When activity slows down, overtime is decreased before lay-offs are begun, as needed. Overtime also varies according to industry and time of year; in construction it is more frequent in the summer; in the retail industry, it increases during the holiday season. However, a recent study tends to show that exporting industries are increasingly resorting to just-in-time production (Billings, 1996), which leads them to rely more heavily on overtime to meet demand for their products.

Computing the job-creation potential

Interest in the notion of cutting work hours to counter unemployment depends on the economic situation. In periods of strong growth, a *laissez-faire* approach is usually adopted and the laws of the market determine the number of unemployed. Reducing work hours tends to win over followers when, as is the case now, unemployment fails to decline in spite of economic recovery and more modest growth in the labour force. In Canada, as in many other countries, especially in Europe, several possibilities have been studied in this respect.³

But what is the potential for job creation through the conversion of

paid overtime? According to the SWA, 1.5 million workers, that is, 14% of all paid workers, reported regularly working an average 5.6 hours of paid overtime weekly, for a total of 6.8 million hours. Assuming that this overtime could be converted into full-time equivalents (FTE) or jobs of 40.5 hours a week (the average number of weekly hours reported by full-time workers in November 1995), these 6.8 million hours of overtime could give rise to 169,000 FTEs (see *About the data*).

Assumptions

The creation of these 169,000 jobs rests on several assumptions. For instance, the exercise assumes that both employers and employees would be in favour of eliminating overtime. It assumes also that all employers would agree to hire new workers and to maintain the number of hours worked overall. The decrease in overtime would lead to a proportional reduction in the earnings of the employees concerned. As well, the savings realized from not having to pay overtime would cover the exact costs of hiring and training, as well as the new workers' lack of experience. No discrepancy would exist between the qualifications needed for these jobs and those of the unemployed, so average labour productivity would remain unaffected and labour costs unchanged.

The job creation scheme also assumes that new workers would have the same marginal propensity to consume goods and services as those working overtime; that the drop in demand by overtime would be entirely compensated by a rise in demand by new workers, with the result unchanged overall.

As well, this notion assumes that production would not be affected by the elimination of paid overtime, leaving prices, as well as the level of exports, unchanged.

In terms of jobs, it is assumed that the labour force would be fully mobile, so that a job announced in one province could be filled by any Canadian

from another province. Furthermore, the announcement of new jobs would have no effect on labour supply and demand, which could modify salary levels.

Distribution by occupation and province

If all these assumptions held, most of the 169,000 potential jobs would be created in Ontario and Quebec, owing to the size of their working populations (Table 1). However, it should be noted that overtime could be temporary in some sectors. This is the case, for example, with the construction of the Confederation Bridge linking Prince Edward Island to the mainland, as well as with the building of the Hibernia oil platform located off the coast of Newfoundland. The job-creation potential in occupations called upon for such projects (as well as in certain professional occupations in Newfoundland and Prince Edward Island) could disappear now that the bridge and platform have been completed. Overtime, and therefore the level of FTEs, reflects activity during the reference period (November 1995). This cautionary note applies to all occupations and all provinces.

In all regions, occupations related to processing, machining and product fabricating would be responsible for creating the greatest proportion of jobs (31%). Their potential is highest in Ontario, where 43% of new jobs would fall into this category, owing mainly to overtime in the manufacturing of transportation equipment, agricultural machinery, metal products and electrical products.

Managerial and administrative jobs and professional positions present considerable job-creation potential. They represent between 33% (in Quebec) and 18% (in the Atlantic region and Ontario) of the potential in the regions studied. Occupations in construction could give rise to a number of jobs, notably in British Columbia and in the Prairie and Atlantic provinces.

Table 1

Redistribution of full-time equivalents (FTEs), by occupation and province

	Canada	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.
'000											
All occupations	169	1	1	4	3	40	76	5	4	20	16
						%					
Managerial/administrative	9	6	2	4	5	13	7	6	2	11	16
Professional	13	12	28	10	14	20	11	13	7	11	11
Clerical	9	9	6	8	6	8	9	10	7	11	8
Sales	3	3	-	1	3	4	3	5	1	5	2
Service	7	10	6	16	6	8	6	7	9	7	8
Primary	4	-	9	7	4	4	1	6	16	12	6
Processing, machining and product fabricating	31	26	14	22	30	22	43	24	30	16	18
Construction	10	14	23	9	10	9	9	12	19	13	15
Transport equipment/ Material handling	14	20	14	24	24	12	13	17	9	14	16

Source: Survey of Work Arrangements, November 1995

Potential by level of education and province

In general, jobs created by converting overtime require a fairly high level of education (Table 2). Assuming that workers who would be filling these new jobs need the same level of education as those who currently fill these jobs, 47% of the new jobs would require at least a postsecondary diploma. In some provinces, such as the Atlantic region, the level is even higher: 58% of jobs thus created would require at least a postsecondary diploma. In the Prairie provinces, this proportion is much lower (38%). Some current workers may, however, be overqualified, which could inflate the required level of education.

When both occupation and level of education are considered, many new jobs would call for a well-qualified, often highly educated labour force. Depending on the region, managerial/administrative and professional positions represent nearly a quarter of the overall potential, and those in construction, a tenth. Many other new jobs would be in processing, machining and product fabricating. These too may require fairly

specialized workers. So if a strict match by occupation were attempted, the discrepancy between the characteristics of the unemployed and those of the FTEs could well be considerable.

Potential for unemployment reduction

Ideally, if there were no obstacles to the conversion of overtime hours, the 169,000 new jobs would reduce the number of unemployed (1.3 million in November 1995) by 13.2% and the unemployment rate from 8.7% to 7.5% (Table 3). (This presupposes, however, that the announcement of new jobs would not persuade new workers to enter the labour force.)

The effect on unemployment is greater in some provinces because the number of FTEs varies across the country, as does the extent of unemployment. Thus, in Newfoundland, the relative weight of the new jobs is slight compared with the number of unemployed, who constituted 16.3% of the labour force in November 1995. The conversion of overtime into new jobs might, therefore, decrease the number of unemployed by only 3.4%. The effect is more significant in

Ontario (17.9%) and Alberta (16.8%), since unemployment is lower (unemployed workers represented, respectively, 7.4% and 7.9% of the labour force of these provinces) and the proportion of potential jobs greater; these jobs represented less than 2% of all paid jobs in Ontario and Alberta, but less than 1% in Newfoundland.

Matching with unemployed workers

The creation of 169,000 FTEs relies on a number of assumptions. Among other things, a perfect match between the qualifications of the unemployed and those required by the new FTEs would be necessary, as would full mobility of the unemployed between provinces. These two requirements have been set aside in the exercise that follows.

The study took into account occupation and province in its match of new FTEs and the unemployed. This means that both the skills required for the new positions and those offered by the unemployed were considered. So too were the unemployed workers' province of residence and the location of the jobs. Matching by occupation was carried

Table 2

Redistribution of full-time equivalents by level of education and province

	Canada	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.
All levels	169	1	1	4	3	40	76	5	4	20	16
'000											
Grades 0 to 8	6	8	5	7	6	9	5	5	3	5	2
Some secondary	15	9	20	11	13	11	15	14	20	21	13
High school graduation	22	5	7	9	34	19	23	26	39	24	22
Some postsecondary	10	-	9	8	3	8	10	7	9	12	18
Postsecondary certificate or diploma	37	79	40	51	35	41	38	38	22	28	33
University degree	10	-	18	15	9	12	8	10	7	10	13

Source: Survey of Work Arrangements, November 1995

out at three levels of detail: major group (corresponding to the 1980 Standard Occupational Classification's two-digit code), minor group (three-digit code), and unit group (four-digit code).

This matching is quite artificial for a number of reasons. First, the occupation of unemployed workers in the SWA corresponds to that of their last job, which is not necessarily the one in which they are trained. In addition, a third of the unemployed workers were without a job for more than a year, thus, no occupation was

assigned to them. To fill this gap, these workers were divided so as to reflect the distribution of unemployed workers with an occupation.⁴ Also, while certain occupations require fairly specific qualifications, others require very few. Hence, matching by occupation, regardless of the level of breakdown (major, minor, or unit), does not entirely reflect reality. In some cases, the major group classification will be too broad, since this level of detail might pair an engineer with the work of an architect. On the other hand, the unit group classifi-

cation would be too restrictive for occupations that require few qualifications, since it would exclude a receptionist from taking on clerical work. The calculations in this article thus constitute minimum and maximum limits of discrepancies between occupations of the new jobs and the unemployed. The study assumed that all tasks related to the new jobs were easily interchangeable between the sexes.

Matching was first done for Canada as a whole, assuming free movement of workers between the

Table 3

Potential for reducing the number of unemployed before matching by province

	Number of unemployed	FTE *	% drop in the number of unemployed	Unemployment rate	
				Before FTE	After FTE
'000					
Canada	1,284	169	13.2	8.7	7.5
Newfoundland	37	1	3.4	16.3	15.7
Prince Edward Island	7	1	7.6	10.8	9.9
Nova Scotia	45	4	7.8	10.5	9.6
New Brunswick	30	3	11.6	8.7	7.7
Quebec	375	40	10.7	10.5	9.4
Ontario	423	76	17.9	7.4	6.1
Manitoba	47	5	9.8	8.6	7.7
Saskatchewan	33	4	13.1	6.7	5.8
Alberta	118	20	16.8	7.9	6.6
British Columbia	169	16	9.4	8.8	8.0

Source: Survey of Work Arrangements, November 1995

* Full-time equivalents.

provinces; the inverse assumption, that is, the absence of interprovincial mobility, was then examined.

Result of matching

Once the unemployed and new jobs were matched by occupation – by major, minor and unit groups – the number of FTEs for Canada as a whole (169,000) shifted to 167,000, then to 165,000 and 136,000 (Table 4). The number of unemployed workers in November 1995 was 1.3 million; the maximum reduction in the number of unemployed workers (169,000) would therefore have been 13.2% (and around 10.6% for the narrowest occupational classification). These exercises assumed free movement of workers between provinces, meaning that a job created in British Columbia could be filled by an unemployed worker formerly from Newfoundland, for example.

With no interprovincial mobility, the number of FTEs was lower for all levels of matching by occupation, dropping from 155,000 to 93,000. The

number of unemployed workers thus dropped by 12.1% when the match was made by major group, and by 7.2%, by unit group.

This study proceeded under the assumption that employees would be willing to eliminate overtime with a proportional decrease in salary and non-salary benefits. According to the SWA, however, only 5% of employees who regularly work overtime would agree to have their hours reduced. In fact, 28% preferred to work more hours. If only consenting workers had their work hours reduced by the equivalent of their overtime hours, only a little under 10,000 jobs would be created. The reduction in the number of unemployed would therefore correspond to only a fraction of a percentage and would barely change the unemployment rate (Table 5).

All of these hypothetical scenarios show how easily a potential 169,000 FTEs can be shrunk by several thousand. For example, one could consider another scenario in which employers support the elimination of overtime

hours. Yet some might resist the introduction of such a measure because of the costs related to hiring and training, and the fixed costs associated with each new employee (contributions to employment insurance plans, to the Canada and Quebec Pension Plan, and to private employee plans, as applicable). The increase in labour costs could lead to a decline in production, and therefore in employment. It could also bring about higher prices, which might depress overall demand and undermine the ability of Canadian firms to compete internationally.⁵ Such a situation could lead to a deterioration in the balance of trade. Ironically, in that context the reduction in work hours could have the opposite effect from that sought; that is, it could increase the number of unemployed.

It cannot be expected that each hour freed will automatically be assigned to a new worker. Numerous studies conducted in the United States, Germany, Great Britain, France, and the Netherlands have assessed the effects on employment

Table 4
Number of FTEs * before and after matching by occupation (two-, three- and four-digit codes)

	Before matching	After matching					
		Interprovincial mobility			No interprovincial mobility		
		Major **	Minor	Unit	Major	Minor	Unit
'000							
All occupations	169	167	165	136	155	148	93
Managerial and administrative	16	16	16	15	16	16	11
Professional	22	20	19	17	18	16	10
Clerical	15	15	15	13	14	14	9
Sales	5	5	5	5	5	5	4
Service	12	12	12	11	12	12	9
Primary	7	7	7	5	6	6	5
Processing, machining and product fabricating	52	52	51	34	46	43	24
Construction	17	17	17	16	17	17	9
Transport equipment/Material handling	23	23	22	19	21	20	13
%							
% drop in the number of unemployed	13.2	13.0	12.9	10.6	12.1	11.6	7.2
Unemployment rate (8.7%)	7.5	7.5	7.6	7.8	7.6	7.7	8.0

Source: Survey of Work Arrangements, November 1995

* Full-time equivalents.

** Major, minor and unit headings refer to the two-, three- and four-digit occupational codes (1980 SOC).

Table 5

Number of FTEs * before and after matching by occupation (two-, three- and four-digit codes) when overtime ** is reduced voluntarily

	Before matching	After matching					
		Interprovincial mobility			No interprovincial mobility		
		Major †	Minor	Unit	Major	Minor	Unit
'000							
All occupations	9.7	9.7	9.7	8.0	9.4	8.9	5.6
Managerial and administrative	1.3	1.3	1.3	1.3	1.2	1.2	0.8
Professional	1.7	1.7	1.7	1.6	1.7	1.5	1.0
Clerical	0.6	0.6	0.6	0.4	0.5	0.5	0.3
Sales	0.4	0.4	0.4	0.4	0.3	0.3	0.2
Service	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Primary	0.2	0.2	0.2	0.2	0.2	0.2	--
Processing, machining and product fabricating	3.5	3.5	3.5	2.3	3.5	3.3	1.7
Construction	0.6	0.6	0.6	0.6	0.6	0.6	0.4
Transport equipment/Material handling	1.2	1.2	1.2	1.2	1.2	1.0	0.9
%							
% drop in the number of unemployed	0.8	0.8	0.8	0.6	0.7	0.7	0.4
Unemployment rate (8.7%)	8.7	8.7	8.7	8.7	8.7	8.7	8.7

Source: Survey of Work Arrangements, November 1995

* Full-time equivalents.

** This table assumes that workers who are willing to reduce their work time will do so by giving up overtime hours.

† Major, minor and unit headings refer to the two-, three- and four-digit occupational codes (1980 SOC).

of past reductions in work hours. The studies have shown that these effects are minimal and usually well offset by increases in productivity (White, 1987).

Even if there are relatively few examples in Canada, work sharing is likely to be more successful in limiting the effects, at the firm level, of cyclical and temporary variations in production. It would preserve jobs rather than create new ones because work is shared by current employees with the required education and experience. They also live in the same region as the jobs. The scheme is attractive to employers because it means they do not need to lay off qualified and experienced workers in whom they have invested. They can also realize savings when activity resumes, notably with respect to rehiring costs. This corresponds to the work sharing program instituted in 1977 under the Unemployment Insurance program (Singh, 1991).

Conclusion

This article has examined the potential of creating full-time equivalent jobs through the conversion of regular overtime. As the results are based on the Survey of Work Arrangements of November 1995, they reflect overtime reported for that period. Hypothetically, the 6.8 million hours of overtime worked each week could have been used to create 169,000 full-time jobs. The reduction in the number of unemployed workers would consequently have been 13.2%. In other words, the unemployment rate for November 1995 would have dropped from 8.7% to 7.5%.

An examination of the characteristics of these hypothetical jobs reveals, however, that they would require relatively high qualifications. Discrepancies between the characteristics of the unemployed and those of the hypothetical jobs would reduce the potential by several thousand

jobs. Therefore, a match was made based solely on occupation (according to the three-tiered classification system) and province. In the most restrictive case, potential jobs created would be no more than 93,000, owing to their mismatch with the occupations and provinces of the unemployed. The unemployment rate would shift from 8.7% to just 8.0% instead of the 7.5% suggested by the most optimistic scenario. Finally, if overtime were reduced only for workers who were in favour of such a measure, fewer than 10,000 full-time jobs would be created. The reduction in the number of unemployed workers would, as a consequence, be only a fraction of a percentage, and the effect on the unemployment rate would go unnoticed. Aside from the artificial nature of this match, the creation of 169,000 jobs would be difficult to achieve because of the multiple effects of this measure. □

■ Notes

1 Statistics Canada is currently putting together a publication of findings from the SWA (titled *Work Arrangements in the 1990s*), to be published in 1998.

2 For a detailed profile of persons who work both paid and unpaid overtime, see Duchesne (1997).

3 For example, the Ontario government created an advisory group on work time in 1987; in 1994, the federal government did so as well (HRDC, 1994); finally, the Quebec government considered the topic during its most recent economic summit in 1996.

4 In so doing, it is possible, however, to underestimate the proportion of unemployed workers who are poorly qualified, as they are usually more concentrated among those with no stated occupation.

5 The effect on Canadian competitiveness internationally could be that much greater, as recent growth in overtime is sometimes attributed to sectors most exposed to international competition (Billings, 1996). These sectors rely heavily on overtime because of their extensive use of just-in-time production. The rise in labour costs in these more vulnerable sectors could, therefore, compromise Canadian competitiveness.

■ References

- Billings, B. "What is behind the rise in over-time in Canada?" Paper presented at Changes in Working Time in Canada and the United States. Conference presented by the Canadian Employment Research Forum (CERF) in co-operation with Human Resources Development Canada, Statistics Canada, and the W.E. Upjohn Institute for Employment Research. Ottawa, June 13-15, 1996.
- Drolet, M. and R. Morissette. *Working More? Working Less? What Do Canadian Workers Prefer?* Catalogue no. 11F0019MPE, no. 104. Ottawa: Statistics Canada, 1997.
- . "Working more? Less? What do workers prefer?" *Perspectives on Labour and Income* (Statistics Canada, Catalogue no. 75-001-XPE) 9, no. 4 (Winter 1997): 32-38.
- Duchesne, D. "Working overtime in today's labour market." *Perspectives on Labour and Income* (Statistics Canada, Catalogue no. 75-001-XPE) 9, no. 4 (Winter 1997): 9-24.
- Huberman, M. and R. Lacroix. *Le partage de l'emploi : solution au chômage ou frein à l'emploi ?* Sainte-Foy: Les Presses de l'Université Laval, 1996.
- Human Resources Development Canada (HRDC). *Report of the Advisory Group on Working Time and the Distribution of Work*. Hull, 1994.
- Singh, S. "A note on the work sharing program." *Perspectives on Labour and Income*. (Statistics Canada, Catalogue no. 75-001-XPE) 3, no. 4 (Winter 1991): 56-59.
- Statistics Canada. *Work Arrangements in the 1990s*. Catalogue no. 71-535-MPE, no. 8. Ottawa, forthcoming.

White, M. *Working Hours: Assessing the Potential for Reduction*. Geneva: International Labour Office, 1987.

Working more? Less? What do workers prefer?

Marie Drolet and René Morissette*

The number of hours Canadians spend at work continues to be a topical issue for several reasons. Persistently high unemployment rates have renewed speculative interest in work time reductions as a means of increasing overall employment. Furthermore, recent research has shown that during the 1980s earnings inequality grew while work hours polarized (Morissette, Myles and Picot, 1994). Specifically, highly paid workers increased their weekly hours while low-paid employees decreased theirs. Thus, changes in the distribution of work time appear to coincide with changes in earnings inequality.

As well, the gradual decline of the standard work week and the growth of non-standard forms of employment may be influencing Canadian workers' attitudes toward their work time. Since the beginning of the 1980s, the proportion of workers employed in jobs of 35 to 40 hours per week has fallen, while that of persons working either few or many hours has increased (Morissette and Sunter, 1994).

Finally, the growing participation of women in the labour force, observed until the early 1990s, and the increasing prevalence of dual-income families make it more difficult for workers to balance the demands of family and workplace (Frederick, 1995). This challenge likely influences the number of work hours preferred by some people.

Faced with high unemployment rates, a more unequal distribution of work time, and shifts to temporary, part-time and contract employment,

Canadian workers may be interested in changing their work patterns to protect themselves against future employment uncertainties. As well, changing social roles for men and women may mean different preferences for different demographic groups.

This article uses data from the November 1995 Survey of Work Arrangements (SWA) to document the extent to which Canadian workers would prefer, *at the same wage rate*, "to work fewer hours for less pay, more hours for more pay or the same hours for the same pay" in their main job (See *About the data*).

About the data

The data for this article are drawn from the Survey of Work Arrangements (SWA), conducted by Statistics Canada as a supplement to the Labour Force Survey (LFS) in November 1995. Like the LFS, the SWA collected information on the labour market activities and demographic characteristics of the working-age population. The SWA covered additional topics of interest, such as place of work (home-based work); reasons for schedules other than regular daytime; hours of work (usual and actual hours, unpaid hours, overtime); non-wage benefits; job permanency; union status; and multiple jobholding. This paper focuses on work-time preferences. Surveyed workers were asked the following question:

"At this job, given the choice, would ... at his/her current wage rate, prefer to work:

- (1) fewer hours for less pay?
- (2) more hours for more pay?
- (3) the same hours for the same pay?"

The LFS sample consists of the population aged 15 and over residing in Canada, except residents of Yukon and the Northwest Territories, persons living on Indian reserves, institutional residents and full-time members of the armed forces. These exclusions account for roughly 2% of the population.

The SWA sample used a subsample of the LFS sample. Approximately 27,000 households were selected, from which all paid workers and self-employed persons aged 15 to 69 were interviewed. About 42,000 individuals

responded to the survey, either directly or by proxy response. The SWA data were collected by LFS interviewers using computer-assisted telephone interviewing (CATI) techniques.

This paper focuses on **paid workers** aged 15 to 69 who were not enrolled full time in school. Excluded are individuals who were self-employed, those who did not answer the survey question on preferences for work time, and those who were working part time because they could find only part-time work, yet who wanted fewer hours for less pay or were satisfied with their hours. The resulting sample was 19,143 respondents (9,932 men and 9,211 women).

An earlier attempt to collect data on hours constraints was undertaken by the 1985 Survey of Work Reduction (SWR). The SWR asked its respondents somewhat different questions, namely:

"Would you take a cut in pay if you received more time off in return?"

"Would you trade some of your pay increase in the next two years for more time off?"

"If you continue to be paid at the same rate, would you work more hours for more pay?" (These questions were not consecutive.)

The SWR used a mailout-mailback methodology. Proxy responses were not permitted. Also, SWR respondents were provided more background information to help them understand both the overall concepts and the context of the survey. Accordingly, any comparison of the results from the SWR and the SWA could be misleading.

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Canadians' work time preferences

In November 1995, two-thirds of paid workers were satisfied with their work hours. One in three employees said they would alter the length of their work week if given the choice: 27% favoured more hours for more pay, while 6% preferred fewer hours for less pay. The fact that many more people preferred more to fewer hours is a robust finding; that is, it holds for each province, age group, and education level, as well as for all industrial and occupational groups.

With the exception of Prince Edward Island, the tendency to prefer more hours was highest in the Atlantic provinces. This may be related to the relatively high unemployment rates observed in these provinces. High unemployment reduces the total number of hours available to workers and compels more of them to work fewer hours than they want. However, differences in provincial unemployment rates do not explain all of the variation in work hour preferences. For example, in 1995 the unemployment rate was higher in Quebec (11.3%) than in Ontario (8.7%), yet the proportion of workers who preferred more hours was lower (Table 1).

Job characteristics

The number of weekly hours usually worked in the main job is highly correlated with work time preferences. In 1995, the majority of those employed part time (fewer than 30 hours per week) preferred more hours, while virtually none wanted less time. Conversely, among men and women working 50 hours or more per week, about 15% preferred more hours, while some 11% of men and 23% of women would have opted for fewer. Roughly 70% of men and women working the standard 35 to 40 hours per week were satisfied with their work hours (Table 2).

Hourly wage rates are an important factor: low-paid workers are much

Table 1
Work time preferences by sex and province

	Paid workers	Proportion of paid workers preferring		
		Fewer hours	Same hours	More hours
	'000		%	
Canada	9,946.5	6.4	66.6	27.1
Men	5,242.7	5.3	67.5	27.2
Women	4,703.7	7.6	65.5	26.9
Province				
Newfoundland	149.8	2.0	66.7	31.4
Prince Edward Island	40.3	4.5	72.8	22.7
Nova Scotia	288.1	3.2	65.0	31.9
New Brunswick	238.4	4.5	64.7	30.7
Quebec	2,424.8	7.9	69.4	22.8
Ontario	3,957.6	6.2	65.2	28.6
Manitoba	370.4	5.9	65.6	28.4
Saskatchewan	288.9	5.2	67.5	27.3
Alberta	966.1	6.8	63.5	29.7
British Columbia	1,221.9	5.9	68.4	25.7

Source: Survey of Work Arrangements, November 1995

Note: See About the data for definition of paid workers.

more likely to prefer more hours than are highly paid employees. For example, roughly one-half of men paid less than \$10 per hour in 1995 preferred more hours. In contrast, only 13% of those receiving \$25 or more per hour wanted more time. The preference for fewer hours also rises with wage rates. Two factors may explain this finding: other things being equal, highly paid workers are more likely to have high annual incomes, and highly paid employees generally have relatively long work weeks (Kahn and Lang, 1991).

Other job aspects are also likely to matter. For instance, in 1995 non-unionized men were more likely than unionized men to want increased hours, even though they worked more (41.3 hours a week, on average, versus 39.8). Roughly half of workers holding non-permanent jobs preferred more hours, compared with only 25% of those in permanent jobs.¹ More than one-third of men and women not covered by a pension plan wanted more work, compared with about one-fifth of those who were covered.²

Many factors may explain why workers in non-permanent jobs are more likely to prefer an increase in their work hours. Their future income is relatively uncertain and their fringe benefits are few.³ So these workers may be willing to work more hours to try to offset their lack of job security. As well, non-permanent jobs are disproportionately held by young workers: those aged under 25 accounted for 11% of the labour force in 1995, yet they held 19% of non-permanent jobs. These jobs also tend to offer lower hourly wage rates: about one in 5 men in non-permanent jobs reported hourly wage rates of less than \$10, compared with one in 10 in permanent jobs.

But why are workers who are not covered by a pension plan more willing to increase their hours than those who are covered? One possible explanation is that those with no employer-sponsored plan realize they will need to finance their retirement through extra wages. Occupations not offering pension plan coverage are generally poorly paid, and tend to have shorter work weeks. Also, pension plan

Table 2
Work time preferences by job characteristics

	Men						Women					
	Paid workers	Proportion preferring			Usual hours	'000	Paid workers	Proportion preferring			'000	
		Fewer	Same	More				Fewer	Same	More		
	'000		%						%			
Total	5,242.7	5.3	67.5	27.2	40.8		4,703.7	7.6	65.5	26.9	34.2	
Usual hours in main job												
0 to 19	96.5	-	19.0	81.0	11.2		451.3	1.2	42.1	56.7	12.4	
20 to 29	147.2	-	22.8	77.2	22.5		593.3	1.6	47.5	51.0	23.1	
30 to 34	133.3	4.4	37.3	58.2	30.9		398.2	4.8	55.8	39.4	31.0	
35 to 40	3,672.8	4.8	69.8	25.4	39.3		2,881.6	9.1	73.6	17.4	38.3	
41 to 49	531.2	4.0	72.8	23.3	44.5		194.7	10.0	77.8	12.3	44.6	
50 and over	661.8	10.9	73.7	15.4	56.4		184.6	23.2	63.8	13.0	55.2	
Hourly wage rate												
\$0.01 to <\$7.50	294.8	1.6	41.1	57.3	37.1		586.3	2.7	41.7	55.6	29.8	
\$7.50 to <\$10.00	363.9	1.9	51.8	46.3	39.0		500.0	3.3	57.3	39.4	34.1	
\$10.00 to <\$15.00	929.8	4.2	56.5	39.3	40.5		1,147.5	7.6	64.9	27.6	34.6	
\$15.00 to <\$20.00	959.2	6.4	69.4	24.2	41.1		801.1	10.9	69.9	19.2	35.8	
\$20.00 to <\$25.00	710.4	6.0	76.2	17.8	41.2		376.1	11.4	75.1	13.5	35.4	
\$25.00 and over	591.2	10.1	77.0	12.9	40.6		272.3	14.2	74.6	11.2	34.0	
Union status												
Unionized	1,922.9	6.4	71.4	22.3	39.8		1,556.0	10.3	68.7	21.3	34.7	
Non unionized	3,288.8	4.7	65.2	30.1	41.3		3,131.6	6.4	63.9	29.7	33.9	
Job permanency												
Permanent job	4,744.6	5.4	69.7	24.9	41.1		4,175.2	7.9	68.3	23.8	34.9	
Non-permanent job	471.5	4.3	47.2	48.6	37.1		502.1	4.7	42.6	52.7	28.3	
Pension plan												
Worker covered	2,982.0	6.3	73.8	20.0	41.1		2,395.6	10.6	71.7	17.6	36.5	
Worker not covered	2,182.7	4.0	59.0	37.0	40.3		2,242.8	4.5	59.1	36.5	31.8	
Industry												
Agriculture, forestry, mining, and construction	629.7	3.2	67.8	29.1	43.3		126.8	9.2	77.1	13.7	35.9	
Agriculture	61.4	2.8	72.0	25.3	48.5		--	--	--	--	--	
Forestry and mining	180.7	4.9	75.9	19.2	44.6		--	--	--	--	--	
Construction	387.6	2.4	63.3	34.3	41.8		--	--	--	--	--	
Manufacturing	1,355.1	5.2	71.9	23.0	41.1		568.9	8.4	69.1	22.5	38.1	
Distributive services *	940.0	5.9	66.9	27.2	41.7		375.3	8.1	69.6	22.3	35.7	
Business services **	494.5	5.0	67.6	27.4	40.5		692.0	8.6	69.7	21.7	35.5	
Consumer services †	881.6	3.7	57.7	38.7	39.0		1,129.9	3.4	56.2	40.4	32.0	
Public administration	941.8	7.9	70.7	21.4	39.4		1,810.8	9.3	67.0	23.6	33.5	
Firm size												
1 to 19 employees	1,028.7	4.1	61.5	34.4	41.0		1,045.4	5.1	64.6	30.3	32.3	
20 to 99 employees	920.0	3.9	67.1	29.0	41.6		694.0	6.1	65.4	28.5	34.1	
100 to 499 employees	908.5	6.1	66.4	27.6	40.7		902.1	8.6	65.4	26.1	34.9	
500 and more employees	2,157.8	6.4	71.1	22.5	40.4		1,912.6	9.5	66.6	23.9	35.0	

Source: Survey of Work Arrangements, November 1995

Notes: Usual hours are the average usual hours worked each week in the main job.

Some numbers may not add to total because of exclusions (missing/not stated/refused/don't know).

* Includes transportation and storage; wholesale trade; communication; and other utilities.

** Includes finance, insurance and real estate; and services to business management.

† Includes retail trade; amusement and recreation; personal services; accommodation, food and beverages; and other services.

coverage is lower in small firms than in large ones (Morissette, 1991). Since smaller firms tend to pay lower wages, workers may need to increase their hours in order to increase their earnings. Consistent with this view is the fact that the percentage of employees who preferred to work more hours was higher in firms with fewer than 20 workers (34% and 30% for men and women) than in firms with at least 500 (23% and 24%).

Worker skills

For each age group, level of job tenure (seniority), level of education, and occupation, the majority of workers who were not satisfied with their work hours in 1995 preferred more to fewer hours (Table 3).⁴

That tendency varied considerably by age group and level of seniority, and, to a lesser extent, by education level and occupation. For example, older workers and those with long job tenure were less likely to want more hours than young employees or those who had been recently hired. Indeed, roughly one-half of workers aged 15 to 24 wanted more hours for more pay. A similar percentage was observed for workers with one to six months of job tenure. In contrast, less than 20% of workers aged 45 to 54 or of those with 11 to 20 years of job tenure expressed a preference for longer hours.

Older workers and those with long job tenure were also more likely to be satisfied with their hours than were other employees. For both men and women, the percentage of employees who reported wanting the same hours for the same pay rose with age and time spent with the employer.

Several factors may explain the preferences of different age groups. Many young workers have low hourly wage rates⁵ and thus may be willing to work more hours to improve their standard of living or to accumulate savings. Young workers are also over-represented in non-permanent jobs. As argued earlier, such workers

may prefer more work time to compensate for the uncertainty of future earnings. Young workers are much more likely than older workers to be involuntarily employed part time, thus working fewer hours than they would like. And because they are more at risk of being laid off in future (Picot and Pyper, 1993), young workers may be more inclined to work more hours while they have the option.

University graduates, professionals, managers and individuals employed in natural and social sciences were more likely than other paid workers to prefer fewer hours: about 10% said so in 1995. This likely reflects, at least in part, their generally high wages.⁶ Their relatively heavy hours may also lead many to strive for balance in their work, social and family lives.

Family environment

Family environment is an important influence on work time preferences. Family earnings⁷ in particular are a key factor in explaining why workers want to change their hours. As family earnings increase, workers' preference for fewer hours grows (Table 4). This is especially true for women.

Demographic characteristics may also explain some of the variation in work time preferences. Those workers with low family earnings are usually young. They tend also to have low levels of job tenure and education, and many work in low-paying occupations.⁸ Conversely, workers with high family earnings are usually older and often highly educated. Many work in professional, managerial and natural and social science occupations and are more likely to have high levels of job tenure.⁹

Marital status also affects workers' preferences. Single, never-married persons are much more likely to prefer increased work time than those who are married or living common law; the former are more likely to be young and to have relatively low earnings. Married people and those in common-

law relationships may have two sets of wages each week. For families with both spouses participating in the labour force, the tendency to prefer increased hours declines as spouses' wages increase.

Above all, the presence of young children influences women's work hours and, indeed, their willingness to participate in the labour force (Nakamura and Nakamura, 1985). But, according to the SWA, this factor does not have the same effect on men's work time preferences. In families with pre-school aged children, women are more likely than men to prefer a reduction in their hours. They also work, on average, far fewer hours. In fact, women's hours drop as the number of young children rises. Men, on the other hand, tend to work more hours. These data suggest that, notwithstanding recent changes in the roles of and attitudes toward women in the workplace, the traditional dichotomy between male "breadwinners" and female "nurturers" still remains a strong characteristic of many families.¹⁰

The last few years have also witnessed the decline of the traditional family structure and the rise of alternative family arrangements: lone-parent families increased as a proportion of all families with children from 17% in 1981 to 22% in 1995.¹¹ Not surprisingly, working single mothers with pre-school aged children are willing to work more hours than other working mothers.

Summary

The persistently high unemployment rates following the 1990-92 recession have revived interest in hours redistribution as a means of increasing overall employment. The main finding of this paper is that, in all age groups, in all education levels, in all occupations and in all industries, many more Canadians, given the choice, would work more hours for more pay than fewer hours for less pay (a ratio of 4:1).

Table 3
Work time preferences by worker characteristics

	Paid workers	Men				Usual hours	Women				
		Proportion preferring			'000		Proportion preferring	'000			
		Fewer	Same	More			%				
Total	5,242.7	5.3	67.5	27.2	40.8		4,703.7	7.6	65.5	26.9	34.2
Age											
15 to 24	574.5	0.9	49.4	49.8	38.2		517.2	3.0	47.4	49.7	33.1
25 to 34	1,543.0	4.0	62.9	33.1	41.0		1,325.7	7.8	63.4	28.8	34.6
35 to 44	1,628.6	6.7	68.4	24.9	41.2		1,559.7	8.5	67.0	24.5	34.4
45 to 54	1,063.6	6.6	78.1	15.3	41.3		999.5	9.1	71.5	19.4	34.5
55 and over	433.0	6.9	78.4	14.7	40.1		301.6	4.8	79.0	16.2	32.8
Education											
Grades 0 to 8	282.2	2.5	77.6	19.9	40.9		161.0	4.7	69.2	26.2	33.9
High school (some or all)	1,892.9	4.1	64.4	31.5	40.7		1,641.9	6.0	65.3	28.8	33.4
Some postsecondary	425.1	3.1	61.6	35.3	39.7		407.7	8.7	59.5	31.8	34.9
Postsecondary certificate or diploma	1,682.7	5.2	68.8	26.0	40.5		1,596.5	7.2	66.4	26.4	33.9
University degree	959.8	9.7	70.9	19.5	41.7		896.6	11.3	66.6	22.1	36.2
Job tenure											
1 to 6 months	669.7	1.9	52.3	45.9	39.2		636.6	3.2	44.3	52.5	29.5
7 to 12 months	419.0	3.1	55.5	41.5	40.4		289.1	2.7	59.0	38.3	33.4
1 to 5 years	1,339.4	4.8	61.2	34.0	40.7		1,365.1	6.8	61.5	31.8	34.0
6 to 10 years	1,009.2	5.8	71.1	23.1	41.3		1,100.4	8.7	70.7	20.6	35.2
11 to 20 years	1,077.9	7.1	75.4	17.5	41.3		890.3	11.6	74.2	14.3	35.8
Over 20 years	727.6	7.1	83.3	9.6	40.9		422.2	9.0	83.6	7.4	36.4
Occupation											
Professional and managerial	811.2	8.0	75.3	16.6	43.2		742.1	10.1	75.2	14.8	38.0
Natural and social science	731.1	8.8	72.3	19.0	40.4		1,172.8	9.7	67.1	23.3	34.0
Clerical	328.3	3.6	60.9	35.5	37.7		1,316.7	7.8	68.4	23.8	33.7
Sales	355.9	5.0	60.9	34.1	40.4		402.6	5.2	55.4	39.4	32.0
Service	525.3	2.7	59.8	37.5	37.9		586.3	3.1	52.9	44.0	31.0
Primary and processing	1,301.2	4.3	69.5	26.2	41.3		293.5	6.4	67.4	26.2	38.6
Construction and other	1,188.7	4.0	64.2	31.8	40.9		189.4	4.4	56.3	39.4	33.2
Construction	440.5	2.6	63.9	33.5	40.8		--	--	--	--	--
Other	748.2	4.8	64.4	30.8	40.9		--	--	--	--	--

Source: Survey of Work Arrangements, November 1995

Notes: Usual hours are the average usual hours worked each week in the main job.

Some numbers may not add to total because of exclusions (missing/not stated/refused/don't know).

Available data suggest that the number of hours generated by a voluntary work time reduction would be insufficient even to eliminate the underemployment of those currently employed.¹² Under this scenario, redistribution of hours would take place only among the employed, and while the level of underemployment would fall, the unemployment rate would remain unchanged (Galarneau, 1997).

Furthermore, the groups most likely to prefer fewer hours are differ-

ent from those most likely to prefer more. The former include those who already work many hours and have long job tenure. They tend to be professionals, managers or employees in natural and social science occupations (for example, architects, engineers, teachers or doctors) and to be well-educated. They have high hourly wage rates, are employed in permanent jobs and in jobs covered by pension plans. On the other hand, groups most likely to prefer more hours tend

to be young, and to have limited job tenure and low levels of education. They are employed in clerical, sales or service occupations, in temporary jobs and in jobs not covered by pension plans. It is therefore unlikely that many hours could be redistributed between these two groups. Work time redistribution is more likely to be feasible *within* occupations, where workers preferring fewer hours could be replaced by workers with similar education and experience.

Table 4
Work time preferences by family characteristics

		Men					Women				
		Paid workers	Proportion preferring			Usual hours	Paid workers	Proportion preferring			Usual hours
			Fewer	Same	More			Fewer	Same	More	
		'000	% of men		'000		% of women		%		
Total		5,242.7	5.3	67.5	27.2	40.8	4,703.7	7.6	65.5	26.9	34.2
Family earnings											
Under \$20,000		411.5	0.7	41.9	57.4	33.1	798.0	2.4	47.4	50.3	28.1
\$20,000 to < \$30,000		504.7	3.6	53.4	43.0	40.0	557.5	5.0	70.0	25.0	35.6
\$30,000 to < \$40,000		660.4	5.4	63.8	30.9	41.0	548.5	7.5	65.8	26.6	35.7
\$40,000 to < \$50,000		630.9	4.3	69.1	26.6	40.9	416.9	8.3	64.2	28.6	34.7
\$50,000 to < \$60,000		482.4	6.4	72.3	21.3	40.9	354.5	9.2	65.1	25.8	34.5
\$60,000 to < \$70,000		389.7	5.0	74.6	20.4	41.7	354.4	9.8	68.4	21.9	36.4
\$70,000 and over		769.8	10.5	72.6	17.0	42.7	653.5	15.6	69.3	15.1	36.7
Marital status											
Married / Common-law		3,579.4	6.0	70.8	23.1	41.6	3,227.2	8.8	68.4	22.8	33.7
Single, never-married		320.7	2.8	58.4	38.8	40.4	488.7	4.1	55.8	40.2	36.0
Divorced, separated, widowed		1,343.7	7.3	68.3	24.4	38.6	987.8	6.2	66.7	27.2	35.0
Spouse's weekly pay											
Single, separated, divorced, widowed		1,664.4	3.7	60.3	36.0	39.0	1,476.5	4.8	59.4	35.9	35.4
Spouse out of the labour force		723.5	5.5	72.9	21.6	41.9	59.2	4.1	64.5	31.4	33.6
Spouse unemployed		140.5	2.1	62.3	35.6	40.8	23.8	8.4	63.9	27.7	34.5
Spouse's weekly wage: \$0 to \$249		382.1	3.0	67.3	29.8	41.3	53.9	2.6	50.1	47.4	32.6
Spouse's weekly wage: \$250 to \$499		668.2	6.6	67.5	25.8	41.0	269.3	5.2	60.9	34.0	34.5
Spouse's weekly wage: \$500 to \$749		493.2	5.9	74.1	20.0	40.7	532.9	8.3	67.6	24.1	34.2
Spouse's weekly wage: \$750 to \$999		197.5	12.7	69.1	18.2	41.9	450.3	13.4	66.1	20.5	33.4
Spouse's weekly wage: \$1,000 & over		93.4	15.9	65.4	18.8	42.4	346.1	13.6	68.9	17.4	33.5
Pre-school aged children											
No pre-school aged children		4,237.7	5.4	67.6	27.0	40.5	3,780.4	6.8	65.6	27.6	34.7
1 pre-school aged child		669.9	3.7	67.1	29.3	41.5	579.0	11.0	64.1	25.0	32.7
2 or more pre-school aged children		335.2	6.5	66.8	26.7	41.8	244.4	11.7	67.1	21.3	30.9
Living arrangements and children											
Living alone & no pre-schoolers		950.1	5.3	61.9	32.8	40.0	912.7	5.9	64.2	29.9	36.5
Living alone & 1 pre-schooler		--	--	--	--	--	51.6	7.3	53.9	38.8	33.8
Living alone & 2+ pre-schoolers		--	--	--	--	--	--	--	--	--	--
Not living alone & no pre-schoolers		3,287.5	5.8	69.3	25.3	40.7	2,967.7	7.1	66.0	26.9	34.1
Not living alone & 1 pre-schooler		664.4	3.7	67.3	29.1	41.6	527.4	11.3	65.1	23.6	32.6
Not living alone & 2+ pre-schoolers		334.7	6.5	66.8	26.8	41.8	234.0	11.9	70.0	18.1	31.0

Source: Survey of Work Arrangements, November 1995

Notes: Usual hours are the average usual hours worked each week in the main job. Family earnings are the sum of wages and salaries for all paid workers in the household. Respondents living alone are the head of the household and have no spouse present and are single, divorced, widowed or separated. Respondents not living alone are married or living common law, or are single, divorced, separated or widowed and living with other persons.

Some numbers may not add to total because of exclusions (missing/not stated/refused/don't know).

Work hour preferences are also likely to be affected by labour market conditions. During recessions, the proportion of the workforce involuntarily employed part time rises; as a result, more employees work fewer hours than they would like. Furthermore, some employees may be less inclined to report a preference for fewer hours if they believe a reduction could threaten their job security. Generally, it seems reasonable to suggest that workers' preferences depend on a number of economic and non-economic factors, and that changes in some of these could influence their choices considerably. □

■ Notes

1 One in nine Canadian workers held a non-permanent job in 1995. Non-permanent jobs refer to seasonal, temporary, contract, term, or casual jobs and work done through a temporary help agency.

2 Roughly half of paid workers were employed in jobs that offered a pension plan.

3 About 58% of permanent jobs and 24% of non-permanent jobs were covered by pension plans in 1995.

4 The only exception was women with over 20 years of job tenure.

5 Roughly 45% of men aged 15 to 24, compared with only 6% of men aged 45 to 54, earned less than \$10 per hour in 1995.

6 In 1995, about 40% of university graduates earned over \$20 per hour, compared with about 10% of workers with a high school education. Over one in three university graduates had family incomes over \$70,000.

7 Family earnings are the sum of wages and salaries for all paid workers in the household.

8 Of workers in families earning less than \$20,000 in 1995, 26% were young workers, and just over half had a high school education or less; 62% were employed in clerical, sales or service occupations and 41% had been on the job for one year or less.

9 Of workers in families earning more than \$70,000 in 1995, 36% had university degrees, 56% were employed in professional, managerial or natural and social science occupations and 42% had over 10 years' experience.

10 The 1994 General Social Survey (GSS) found that having children had a greater effect on the lives of women than on the lives of men.

11 The majority of these families were headed by women (83% in 1991) (Statistics Canada, 1997). Furthermore, most lone-parent families headed by women were living below Statistics Canada's low income cut-offs (61% in 1990) (Lindsay, 1992). The 1996 Census revealed no real change to the first figure. More recent data for the second have not been released yet.

12 The Survey of Work Arrangements does not contain information on the number of additional hours that "underemployed workers" would be willing to work or on the number of hours by which "overemployed workers" would reduce their work week. As a result, any attempt to estimate how many hours could be redistributed on a voluntary basis must rely on assumptions about Canadians' willingness to alter the length of their work week.

■ References

Drolet, M. and R. Morissette. *Working More? Working Less? What Do Canadian Workers Prefer?* Catalogue no. 11F0019MPE, no. 104. Ottawa: Statistics Canada, 1997.

Frederick, J.A. *As Time Goes By...Time Use of Canadians*. Catalogue no. 89-544-MPE. Ottawa: Statistics Canada, 1995.

Galarneau, D. "The redistribution of overtime hours." *Perspectives on Labour and Income* (Statistics Canada, Catalogue no. 75-001-XPE) 9, no. 4 (Winter 1997): 25-31.

Kahn, S. and K. Lang. "The effect of hours constraints on labor supply estimates." *Review of Economics and Statistics* 73, no. 4 (November 1991): 605-611.

Lindsay, C. *Lone-parent Families in Canada*. Catalogue no. 89-522-MPE. Ottawa: Statistics Canada, 1992.

Morissette, R. "Are jobs in large firms better jobs?" *Perspectives on Labour and Income* (Statistics Canada, Catalogue no. 75-001-XPE) 3, no. 3 (Autumn 1991): 40-50.

Morissette, R., J. Myles and G. Picot. "Earnings inequality and the distribution of working time in Canada." *Canadian Business Economics* 2, no. 3 (Spring 1994): 3-16.

Morissette, R. and D. Sunter. *What Is Happening to Weekly Hours Worked in Canada?* Catalogue no. 11F0019MPE, no. 65. Ottawa: Statistics Canada, 1994.

Nakamura, A. and M. Nakamura. "A survey of research on the work behaviour of Canadian women." In *Work and Pay: The Canadian Labour Market*, W. Craig Riddell, research co-ordinator, 171-218. Toronto: University of Toronto Press in co-operation with the Royal Commission on the Economic Union and Development Prospects for Canada, and the Canadian Government Publishing Centre, Supply and Services Canada, 1985.

Picot, G. and W. Pyper. *Permanent Lay-offs and Displaced Workers: Cyclical Sensitivity, Concentration, and Experience Following the Layoff*. Catalogue no. 11F0019MPE, no. 55. Ottawa: Statistics Canada, 1993.

Statistics Canada. *The Daily*. Tuesday, October 14, 1997. Available on the Internet at <http://www.statcan.ca> under "Daily news."

Regional disparities and non-permanent employment

Dominique Pérusse

Underemployment, the labour market's inability to support and fully satisfy the labour supply, is reflected in many ways. Some workers start their own businesses when they cannot find other jobs. Others become unemployed or take on involuntary part-time work. And increasing numbers are accepting jobs with no security.

The growth in non-permanent jobs is a symptom of underemployment. In November 1995, 12% of paid workers had non-permanent jobs; that is, seasonal, temporary or casual employment, or work obtained through temporary help agencies (see *Data source and definitions*).

How good are these jobs? More specifically, what types of job are available in the various provinces, regions and cities of Canada? A study published recently in *Perspectives* took a national look at non-permanent jobs and workers with these jobs (Grenon and Chun, 1997). This note adds a geographic dimension to that discussion, focusing on regional disparities of non-permanent job rates.¹ It also examines job characteristics to determine whether, at the provincial level, non-permanent jobs include fewer benefits than permanent ones.

Provincial rates vary

In absolute terms, most non-permanent jobs were in Ontario (426,000), Quebec (369,000) and British Columbia (130,000). However, non-permanent work, like unemployment, is relatively concentrated in the Atlantic provinces and, to a lesser extent, Quebec (Chart). In November 1995, about 10% of workers in Ontario, Manitoba and British

Data source and definitions

The Survey of Work Arrangements (SWA), sponsored by Human Resources Development Canada, was conducted in November 1995 as a supplement to the Labour Force Survey. This version of the SWA adopted a new definition of non-permanent job (see *Temporary, term or contract*), making it difficult to compare with the original 1991 survey. Hence, this analysis concentrates on permanent and non-permanent jobs held by paid workers in November 1995.

The distinction between a permanent and non-permanent job relates to the job and not to the worker's intentions. For example, a student working at a permanent job is considered permanent even if he or she plans to stay in the job only temporarily.

A **permanent** job is often referred to as indeterminate since it has no specified date of termination.

A **non-permanent** job ends on a predetermined date or as soon as a specified project is completed. Non-permanent jobs include seasonal, temporary and casual jobs and work obtained through temporary help agencies.

Seasonal jobs last for one or more limited periods at the same time each year. They are structured by the annual labour demands of industries such as farming, fishing, forestry, construction and tourism.

Temporary, term or contract (non-seasonal) jobs end on a specified date or at the completion of a specified task or project, as determined by the employer prior to hiring. The definition used in the 1991 SWA covered only jobs with a term of six months or less.

On-call or casual jobs have no pre-arranged schedule. Hours of work vary widely from week to week, since employees are called to work only when they are needed. In addition, workers are usually not paid for time not worked, and their prospects for regular work over the long term are limited.

For jobs obtained through **temporary help agencies**, the workers are hired and paid by the agencies themselves. Because the data on this type of employment are limited, even at the national level, and estimates variable, figures cannot be published. These jobs are, however, included in the totals, along with jobs classed as "other" and unspecified.

Average hourly wage applies to all paid workers, whether they are paid by the hour or salaried. It is expressed in dollars per hour.

Since the SWA is a household survey, the **census metropolitan area (CMA)** to which the job belongs is determined by the respondent's place of residence and not by place of work.

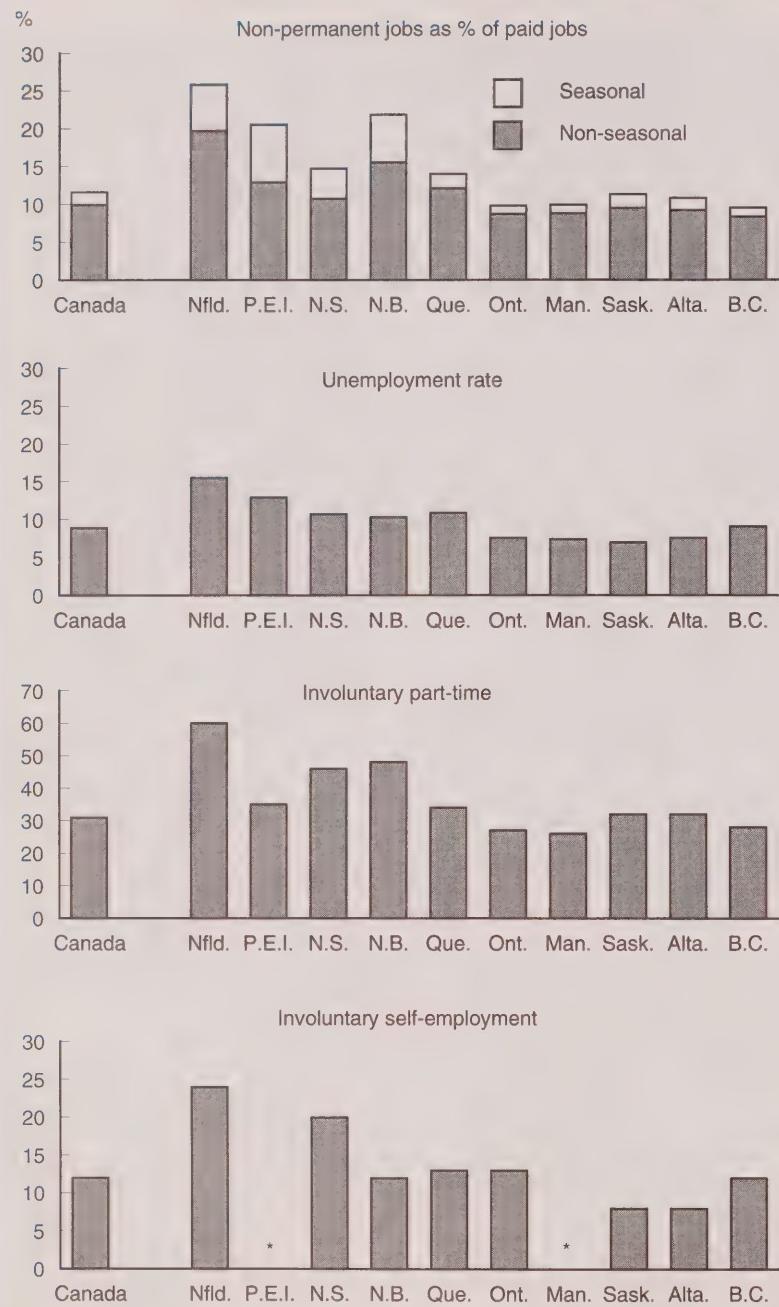
A census metropolitan area is an urbanized core with a total population of at least 100,000 together with its main labour market area (determined by commuting patterns).

All sample survey estimates will have some level of sampling error. Measurement of the standard error of an estimate is expressed as the coefficient of variation (CV), which is expressed as a percentage of the estimate. For all provinces and regions, estimates with a CV of 16.5% or less are acceptable and released. Estimates with a CV between 16.5% and 25.0% have been qualified, and must be used with greater caution. Estimates that were likely to vary by more than 25.0% have been suppressed.

Columbia and 11% in Saskatchewan and Alberta had to be content with non-permanent work; the Canadian average was 12%. In view of the

differences in these provinces' economies, the similarity of the rates is noteworthy. In Quebec, the rate was slightly higher at 14%. Fully 26% of

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Chart**Several labour market indicators show a similar pattern.**

Sources: Survey of Work Arrangements, November 1995 and Labour Force Survey, November 1995

Note: Scale for involuntary part-time differs from the others.

* Amount too small to be expressed.

jobs in Newfoundland were non-permanent, as were 22% in New Brunswick and 20% in Prince Edward Island. Nova Scotia's rate was close to Quebec's.

Historically, most non-permanent jobs have been seasonal. In recent years, other types of non-permanent work arrangement – temporary and casual jobs and, to a lesser degree, work obtained through temporary help agencies – have become more prevalent. Nationally, only 14% of non-permanent jobs were seasonal in November 1995, while 50% were temporary and 33% casual. The pattern was the same at the provincial level: temporary positions outnumbered casual jobs, which in turn outnumbered seasonal jobs. Prince Edward Island was the exception: in that province, seasonal jobs were more common than other non-permanent work arrangements.

In Ontario, Quebec and the western provinces, seasonal job rates were relatively low: only 1% or 2%, compared with 5% on the east coast. Yet seasonal jobs, such as those in the fishing industry, accounted for only part of the difference in non-permanent job rates. For instance, if seasonal employment is excluded and the comparison confined to temporary or casual jobs and work obtained through temporary help agencies, the difference persists: in Ontario and all provinces to the west, only 8% to 9% of jobs were temporary or casual in November 1995, compared with 12% in Quebec and 14% in the Atlantic provinces (19% in Newfoundland alone).

Because the data have not been seasonally adjusted, they should be interpreted with caution. For example, construction of the Confederation Bridge may have affected non-permanent employment rates, in Prince Edward Island especially. The general trend is worth noting, however.

Table 1
Non-permanent jobs by type of job and geographic area

	Paid jobs **	Non- permanent jobs	Non- permanent jobs as % of paid jobs ***	Non-permanent jobs whose types are known			
				Non-seasonal		Total †	Temp- orary
				Total	Seasonal		Casual
	'000						
Canada	11,084	1,272	12	100	14	86	50
CMA	7,351	784	11	100	9	91	53
Non-CMA	3,734	488	13	100	22	78	45
Atlantic provinces	787	154	20	100	27	73	39
Newfoundland	163	42	26	100	24 *	76	39
St. John's	73	14 *	19	100	--	90 *	39 *
Non-CMA	90	28	31	100	31 *	69	40
Prince Edward Island	45	9	20	100	37	63	32 *
Nova Scotia	321	47	15	100	27	73	41
Halifax	139	15	11	100	--	98	63 *
Non-CMA	182	32	18	100	40	60	31
New Brunswick	258	56	22	100	29	71	37
Saint John	54	10 *	19	100	--	96	54 *
Non-CMA	204	46	23	100	34	66	33
Quebec	2,671	369	14	100	14	86	52
Québec CMA	292	48	17	100	--	89	37 *
Montréal	1,340	160	12	100	--	91	61
Four other CMAs ††	244	35 *	15 *	100	--	85	43 *
Non-CMA	795	126	16	100	20 *	80	49
Ontario	4,407	426	10	100	11	89	54
Ottawa †††	305	55	18	100	--	95	51 *
Toronto	1,748	161	9	100	--	95	60
Eight other CMAs ‡	1,125	81	7	100	--	87	51
Non-CMA	1,229	129	11	100	19 *	81	50
Prairies	1,813	192	11	100	14	86	46
Manitoba	419	41	10	100	--	88	47
Winnipeg	303	27	9	100	--	91	46
Non-CMA	116	13 *	12 *	100	--	83	49 *
Saskatchewan	326	37	11	100	--	84	49
Regina	92	11 *	12 *	100	--	91	70 *
Saskatoon	86	11 *	12 *	100	--	76 *	--
Non-CMA	149	15 *	10 *	100	--	84	40 *
Alberta	1,068	115	11	100	14 *	86	44
Edmonton	368	44	12	100	--	84	40 *
Calgary	349	38	11	100	--	87	44 *
Non-CMA	351	33 *	10	100	--	86	50 *
British Columbia	1,407	130	10	100	13 *	87	49
Vancouver	721	50	7	100	--	90	58 *
Victoria	113	23 *	22 *	100	--	88 *	--
Non-CMA	573	57	10	100	--	84	44 *

Source: Survey of Work Arrangements, November 1995

* Qualified data (see Data source and definitions).

** Includes paid workers who did not specify job permanence.

*** Paid jobs whose permanence is known.

† Includes temporary and casual jobs, work obtained through temporary help agencies and any other kind of non-seasonal work.

†† Chicoutimi-Jonquière, Hull (Quebec portion of Ottawa-Hull CMA), Sherbrooke and Trois-Rivières.

††† Ontario portion of Ottawa-Hull CMA.

‡ Hamilton, Kitchener-Waterloo, London, Oshawa, St. Catharines-Niagara, Sudbury, Thunder Bay and Windsor.

Rates usually lower in census metropolitan areas (CMAs)

Nationally, the non-permanent job rate was slightly lower within CMAs (11%) than outside (13%), though it varied at the regional level (Table 1). The gap was particularly wide in Newfoundland: 19% of jobs in St. John's were non-permanent, compared with 31% in the rest of the province.

Vancouver had the lowest non-permanent job rate in the country, at just 7%. Montréal, Toronto and Vancouver were similar to one another: aside from the fact that the non-permanent job rate was relatively low in their respective provinces, roughly 60% of such jobs in each city were temporary, 30% casual, and the remainder seasonal.

Non-permanent job rates were higher for the CMAs of Victoria, Ottawa-Hull (Ontario portion) and Québec (22%, 18% and 17%) than for the corresponding provinces (10%, 10% and 14%). In all three CMAs, rates for the public and private sectors were roughly alike, although the estimates were variable: the rates for temporary jobs were higher in the public sector, while casual jobs were more likely to be found in the private sector.

Each CMA in the Prairies – Winnipeg, Regina, Saskatoon, Edmonton and Calgary – had a non-permanent job rate close to its corresponding provincial figure.

Job quality

Permanent jobs tend to provide higher wages and better benefits than non-permanent ones. Part of the advantage may be due to factors other than job permanence. For example, industry type, company size, region, job duration, and the age, sex and occupation of workers may explain some of the differences. These other factors are not examined here, but should be borne in mind.

Nationally, the average hourly wage was almost \$3 higher for perma-

gent jobs than for non-permanent work (Table 2). A gap existed in every province, most noticeably in Manitoba (\$4) and Nova Scotia (about \$3.50).

Overall, the best-paid non-permanent jobs were temporary positions, paying an average \$14.63 an hour. Seasonal work paid \$11.93 per hour, casual or on-call jobs, \$10.04. This pattern applied to most regions, with a few exceptions; for instance, seasonal employment paid less than casual work in some places.

Permanent, seasonal and temporary jobs generally paid \$1 more per hour within CMAs than elsewhere. The size and direction of the wage difference between CMAs and non-CMA regions varied from province to

province and city to city. The best-paid work arrangements were permanent jobs in the Ottawa area, averaging \$17.04 an hour.

Furthermore, according to the SWA, permanent positions are more likely than non-permanent jobs to include benefits² such as employer-sponsored pension plans, health insurance, dental insurance, paid sick leave and paid annual vacation leave (Table 3). In fact, 65% of permanent jobs in Canada boasted at least three of the five benefits in 1995, whereas only 18% of seasonal, temporary, casual or other jobs did so. Moreover, 16% of permanent positions offered none of these benefits, compared with 60% of seasonal, temporary and casual jobs.

Other symptoms of underemployment

The higher rate of non-permanent jobs in eastern Canada is only one regional disparity in the labour market (Chart). The unemployment rate is another. In November 1995, it generally diminished from east to west: from 15.5% in Newfoundland, to 12.9% in Prince Edward Island, 10.7% in Nova Scotia, 10.3% in New Brunswick, 10.9% in Quebec and 7.6% in Ontario. The rate was even lower in the Prairie provinces (from 7.0% to 7.6%), rising to 9.1% in British Columbia.

Involuntary part-time work is another symptom of a weak labour market. The Survey of Work Arrangements gathered data on the reasons for part-time work. Nationally, 31% of part-time workers reported that it was the only work they could find. This reason was more frequently cited in eastern Canada, less so out west: 60% of respondents gave this explanation in Newfoundland, 46% did so in Nova Scotia, 48% in New Brunswick, 34% in Quebec, 27% in Ontario, and 26% – the lowest rate – in Manitoba. Involuntary part-time work was slightly more frequent in Saskatchewan and Alberta (32%), but dropped back to 28% in British Columbia. Involuntary part-time work is less frequent in Prince Edward Island than elsewhere in the Atlantic provinces.

Some workers would like to work more than their usual hours, but are not able to because of labour market conditions. In the SWA, paid workers were asked whether, at their current rate of pay, they would prefer to work fewer hours for less pay, the same hours for the same pay, or more hours for more pay. A majority of respondents reported a preference for the same number of hours. The option of working more hours, selected by 28% of paid workers nationally, was most popular in Newfoundland, Nova Scotia and New Brunswick, though Alberta and Ontario were not far behind. Prince Edward Island and Quebec had the lowest percentages.

Other people start their own businesses when they cannot find work. The 1995 SWA covered self-employed workers for the first time. They were asked to state their main reason for being self-employed. In every province, a desire for independence was most often cited. Even so, 12% of respondents said their main reason was an inability to find other work. The figure for the Atlantic provinces was even higher, at 18%. Two provinces, Nova Scotia (20%) and Newfoundland (24%), accounted for this high percentage. New Brunswick had a lower rate, similar to those for Quebec, Ontario and British Columbia.

Table 2
Average hourly wage ** by type of job and geographic area

	Permanent jobs	Non- permanent jobs	Non-permanent jobs whose types are known			
			Seasonal	Non-seasonal		
				Total	Temporary	Casual
\$						
Canada	15.49	12.64	11.93	12.76	14.63	10.04
CMA	15.92	13.00	12.66	13.04	15.15	9.91
Non-CMA	14.67	12.05	11.46	12.23	13.62	10.27
Atlantic provinces	13.23	10.38	9.77	10.61	11.93	9.30
Newfoundland	14.40	11.82	11.45 *	11.91	13.96	10.20
St. John's	15.71	12.36 *	--	12.45 *	15.38 *	10.98 *
Non-CMA	13.15	11.53	11.50 *	11.54	13.32	9.39 *
Prince Edward Island	12.69	10.20	8.68	11.05	11.99 *	10.00 *
Nova Scotia	12.83	9.40	9.96	9.19	10.25	8.03
Halifax	13.89	8.50	--	8.50	9.02 *	7.29 *
Non-CMA	12.03	9.87	9.96	9.80	12.39	8.36 *
New Brunswick	13.14	10.10	8.96	10.60	11.67	9.47
Saint John	14.79	13.35 *	--	13.60	16.06 *	10.30 *
Non-CMA	12.68	9.39	8.98	9.64	10.10	9.23
Quebec	15.33	13.02	12.09	13.18	15.21	10.07
Québec CMA	16.14	11.71	--	12.19	15.50 *	10.30 *
Montréal	15.78	13.51	--	13.61	15.90	9.36
Four other CMAs ***	16.52	12.59 *	--	12.64	14.01 *	--
Non-CMA	13.91	12.91	12.34 *	13.07	14.33	10.85 *
Ontario	16.23	13.46	12.93	13.52	15.36	10.63
Ottawa †	17.04	13.10	--	13.25	14.96 *	10.55 *
Toronto	16.80	14.05	--	13.92	15.65	11.30 *
Eight other CMAs ‡‡	15.95	13.61	--	13.63	16.18	9.69 *
Non-CMA	15.57	12.77	12.03 *	12.96	14.57	10.38 *
Prairies	14.10	10.92	12.22	10.73	12.40	8.59
Manitoba	13.90	9.87	--	9.90	12.00	7.14
Winnipeg	14.33	10.11	--	10.32	13.20	7.36 *
Non-CMA	12.79	9.40 *	--	8.93	10.00 *	--
Saskatchewan	13.69	11.43	--	11.55	12.81	9.96
Regina	14.95	11.48 *	--	11.76	11.47 *	--
Saskatoon	13.75	11.43 *	--	11.55 *	--	--
Non-CMA	12.75	11.39 *	--	11.38	13.17 *	9.60 *
Alberta	14.31	11.12	13.39 *	10.78	12.42	8.67
Edmonton	14.50	11.98	--	11.02	14.14 *	7.26 *
Calgary	14.77	10.81	--	11.26	12.46 *	10.41 *
Non-CMA	13.67	10.40 *	--	9.93	10.64 *	8.79 *
British Columbia	16.51	14.39	13.64 *	14.51	16.10	11.93
Vancouver	16.23	15.06	--	14.97	15.41 *	13.29 *
Victoria	16.87	13.71 *	--	13.94 *	--	--
Non-CMA	16.76	14.21	--	14.40	16.09 *	12.64 *

Source: Survey of Work Arrangements, November 1995

* Qualified data (see Data source and definitions).

** This refers to all paid workers, whether paid by the hour or salaried.

*** Chicoutimi-Jonquière, Hull, (Quebec portion of Ottawa-Hull CMA), Sherbrooke and Trois-Rivières.

† Ontario portion of Ottawa-Hull CMA.

‡ Hamilton, Kitchener-Waterloo, London, Oshawa, St. Catharines-Niagara, Sudbury, Thunder Bay and Windsor.

Table 3
Employee benefits provided, by job permanence and province

	Permanent jobs			Non-permanent jobs		
	None	1 or 2 benefits	From 3 to 5 benefits	None	1 or 2 benefits	From 3 to 5 benefits
		% of employees			%	
Canada	16	20	65	60	21	18
Atlantic provinces	17	19	65	68	18	15
Newfoundland	13	16	71	56	21 *	23 *
Prince Edward Island	20	16	65	71	--	--
Nova Scotia	18	19	63	72	15 *	13 *
New Brunswick	16	20	63	72	17 *	11 *
Quebec	10	25	65	51	27	23
Ontario	17	16	67	65	19	16
Prairies	18	20	62	58	24	18
Manitoba	17	17	66	57	22 *	20 *
Saskatchewan	15	22	62	44	29 *	27 *
Alberta	19	20	60	63	23 *	14 *
British Columbia	19	21	61	67	14 *	19 *

Source: Survey of Work Arrangements, November 1995

Note: The benefit types are employer-sponsored pension plan, health insurance, dental insurance, paid sick leave and annual vacation leave.

* Qualified data (see Data source and definitions).

This relationship between employee benefits and job permanence was observed in every province, though to differing degrees. In Saskatchewan, Quebec and Newfoundland, a larger proportion of jobs, both permanent and non-permanent, featured benefits packages. According to the SWA, these three provinces were also heavily unionized. In Saskatchewan, 56% of non-permanent jobs offered benefits (29% had one or two, and another 27%, from three to

five). Quebec ranked second, with about 49% of its non-permanent positions offering a benefits package. Newfoundland, in third place, contrasted sharply with the Maritime provinces: 44% of its relatively large share of non-permanent jobs included one or more benefits, compared with only about 28% in Prince Edward Island, Nova Scotia and New Brunswick.

Conclusion

These observations illustrate an important point: non-permanent jobs are not necessarily inferior to permanent ones. However, a more detailed study by industry and other variables would be required to explain certain findings. The redesigned Labour Force Survey (LFS) provides an opportunity to gather such data. Since January 1997, a question on job permanence has been part of the monthly survey, whose sample is twice as large as the SWA's. In early 1998, annual estimates for 1997 will be used to eliminate seasonal variation. □

Notes

1 Statistics Canada is currently putting together a publication of findings from the SWA (titled *Work Arrangements in the 1990s*), to be published in 1998. The publication will include analysis on provinces as well as data for CMAs.

2 The criterion here is simply whether a benefit (a pension plan, for example) is provided; the quality (or generosity) of the benefit is not considered.

References

Grenon, L. and B. Chun. "Non-permanent paid work." *Perspectives on Labour and Income* (Statistics Canada, Catalogue no. 75-001-XPE) 9, no. 3 (Autumn 1997): 21-31.

Statistics Canada. *Work Arrangements in the 1990s*. Catalogue no. 71-535-MPE, no. 8. Ottawa, forthcoming.

A statistical portrait of the trade union movement

Ernest B. Akyeampong

This article (originally released on the eve of Labour Day 1997, and updated with the latest available data) traces the Canadian union movement's numerical strength over the past several decades and profiles the changing and current composition of its membership. It also compares the working conditions of union members with those of non-unionized employees. Some statistics for major wage settlements vis-à-vis inflation rates over the past two decades are presented. Data on strikes, lockouts and the resulting person-days lost offer glimpses of the state of labour unrest over the same period. A final set of statistics compares union density ratios, namely, the extent of unionization among 19 countries belonging to the Organisation for Economic Co-operation and Development (OECD).

Union membership and density by sex, 1967 to 1997

The latest data released under the *Corporations and Labour Unions Returns Act* (CALURA) cover 1993. To obtain the most recently released information on unions (1997), one must use the redesigned Labour Force Survey (LFS) (see *Data sources*). Since the collection methods, reference periods and coverage of these two sources differ, findings from them can be different. The comparability of the two series is still under study but initial examination shows that the overall LFS data are in line with recent CALURA trends.

- From 2,056,000 in 1967, union membership grew fairly steadily to stand at 3,841,000 in 1990. Since then, it has slowly declined; by 1997, membership totalled 3,547,000 (Table 1).

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Data sources

Union membership, density ratios and profile information

All pre-1997 membership, density and profile information presented in this note comes from data collected under CALURA (the *Corporations and Labour Unions Returns Act*).

In January 1997, the redesigned Labour Force Survey (LFS) started to collect monthly data on union membership and coverage. Combined with other information obtained from the same survey (for example, wage rates, work volume and detailed demographic data), the revised LFS offers a rich source of data on union members.

Though both sources are managed by Statistics Canada, care should be exercised when comparing their data. Slightly different results emerge for a number of reasons, some of which are listed below:

- For CALURA, the reference period is December 31 of each year, whereas for the LFS it is usually the week that includes the 15th of the month.
 - CALURA is an enumeration of unions with 100 or more members; the LFS is based on a household sample that imposes no restrictions on union size.
 - Unemployed persons and pensioners may belong to a union. They are
-
- Most of the increase during the period occurred among women; their ranks rose each year, and their strength of 1,598,000 in 1997 was four times that of 1967 (402,000).
 - Men saw their numbers rise fairly steadily from 1967 to the early 1980s. Thereafter, their numbers fluctuated; their level in 1997 (1,949,000) was considerably less than their peak in 1989 (2,314,000).

included in the CALURA figures, but are excluded from the LFS.

- Multiple jobholders could be counted twice in CALURA if they belonged to different unions in each job, but only once in the LFS.

Non-wage benefits and work arrangements

The information on non-wage benefits, such as employer-sponsored pension plans and paid sick leave entitlement, is from the November 1995 Survey of Work Arrangements, which was funded by Human Resources Development Canada (HRDC) and conducted by Statistics Canada.

Strikes, lockouts and workdays lost and major wage settlements

These data come from HRDC. Data on strikes, lockouts and days lost refer to all work stoppage involving one or more workers. Further information on these statistics may be obtained from Angèle Charbonneau, Workplace Information Directorate, HRDC at (819) 997-3117 or 1 800 567-6866.

Union density ratios of selected OECD countries

These data come from the OECD *Employment Outlook*, July 1997.

- The overall union density ratio has remained within the 31-to-33 percentage range. It has held this position mainly because of three factors: the growth in female members, persistently high density ratios in the public sector, and a sizeable proportional growth among the self-employed (rather than among employees).

Unionization in Canada

"The Canadian trade union movement grew out of the industrialization of the economy early last century. The growing workforce in the industrial sector as well as the increased concentration of businesses in the sector led workers to organize, as they increasingly found themselves performing comparable tasks. Specialized workers were the first to organize against the threat of mechanization. The year 1886 saw the birth of the American Federation of Labor and its Canadian counterpart, the Trades and Labour Congress of Canada. In 1902, Canadian nationalists founded the Canadian Federation of Labour, in reaction to the massive American influence."

Despite these movements, it was not until the 1920s that these groups began to have an influence on working conditions and real income of members (Rea, 1991).

These developments were temporarily stalled by the Great Depression of the 1930s after which union membership practically quadrupled (from 1940 to 1956). At the same time, different

branches of the Canadian union movement united, a development that encouraged governments to adopt pro-labour legislation and that helped to strengthen the influence and prestige of the labour movement.

After 1956, union membership increased more slowly, owing to a decline in the pool of semi-skilled workers, the group most inclined to unionize, and a rise in the number of white-collar workers, less inclined to organize. The expansion of the federal public service, various provincial civil services and certain industries that had traditionally been highly unionized (including the automobile industry) contributed to a moderate increase in union membership by the mid-1960s (Eaton, 1976)." (Extracted from Galarneau, 1996).

From 1967 to 1997, union membership almost doubled, and most of the growth came from women. However, offsetting increases in the non-union employees caused union density to remain in the 31%-to-33% range during the period.

- Another feature of the union movement pertains to its changing international affiliation status. In 1962, approximately 2 in 3 union members belonged to an international trade union, that is, a union whose headquarters was based outside Canada. Thirty years later (1992), the proportion had fallen to only 3 in 10 (Chart B).

Non-union workers covered by collective agreements

In addition to union members, the Labour Force Survey identifies those employees who, though not union members, are nevertheless covered by the collective agreements signed by the unions, and thus enjoy union-negotiated privileges. These include some people who choose not to be union members because of their religious beliefs, as well as those who are excluded because of managerial responsibilities. Over the period January to September 1997, an average 334,000 workers fit this category.

Current union membership

In January 1997, the Labour Force Survey began to collect monthly statistics on union membership and collective agreement coverage (see *Data sources*). To minimize seasonal distortions, the following profile of union membership is based on averages for the first nine months of 1997.

Public versus private sectors

- Employees in the public sector, that is, those working for the government, crown corporations, schools or hospitals, are more than three times as likely as their private sector counterparts to belong to a union (73% versus 22%) in 1997 (Table 2).
- Indeed, while public employees account for only 18% of the paid workforce, they constitute close to one-half (42%) of the total trade union membership.

Table 1
Union membership and density by sex

	Union membership			Union density *		
	Both sexes	Men	Women	Both sexes	Men	Women
1967	2,056	1,654	402	33.2	40.9	15.9
1972	2,355	1,780	575	31.9	37.9	21.4
1977	2,785	2,003	781	31.2	37.4	22.6
1982	2,997	2,016	981	31.0	37.8	24.0
1987	3,614	2,261	1,353	32.0	36.0	27.0
1992	3,803	2,216	1,587	33.2	36.1	29.8
1997 **	3,547	1,949	1,598	31.1	32.4	29.6

Sources: CALURA (1967 to 1992); Labour Force Survey (1997)

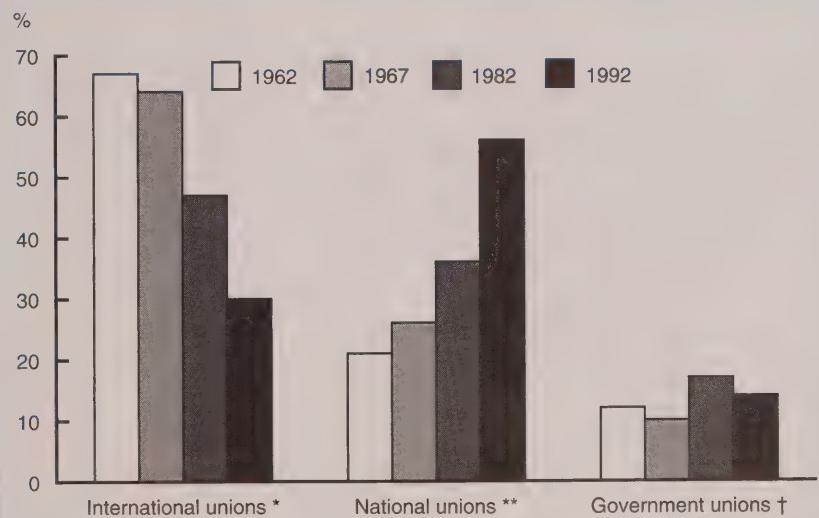
* Union density is the ratio of the number of employees who belong to a union to the number of paid employees.

** Average for the January-to-September 1997 period.

Chart A**In 1997, nearly half of union members are women.**

Sources: CALURA (1967 to 1992); Labour Force Survey (1997)

* Average for the January-to-September 1997 period.

Chart B**National unions claim a growing share of members.**

Source: CALURA

* Labour unions with headquarters based outside Canada (primarily in the United States).

** Labour unions with headquarters based in Canada.

† Organizations of federal and provincial employees whose bargaining rights are established by special legislation.

Demographic characteristics of union members

- Union membership is slightly higher among men (32%) than among women (30%).
- Only 11% of young employees (15 to 24 year-olds) are unionized. Workers aged 45 to 54 years have the highest union density ratio (44%), partly a reflection of the high ratios observed among an aging blue-collar and public sector workforce.
- The rate of unionization is higher among workers with higher education. The density ratios among workers with university degrees and those with postsecondary diplomas or certificates exceed the average, and the overall ratio among workers with lower educational attainment is below average.

Labour market characteristics

- Full-time workers are one-and-a-half times more likely to belong to a union than part-time workers (33% versus 22%).
- Workers in public administration have the highest rate of unionization (65%), followed by those in utilities (62%) and transportation, communication and storage (44%). Those in agriculture (2%) and finance, insurance and real estate (9%) are least unionized. Manufacturing and construction,¹ which had once boasted the highest union rates among the major industries, today have density ratios close to the overall average.
- Blue-collar workers are generally more likely than white-collar workers to belong to a union. About 4 in 10 employees in construction, processing, machining and fabricating, and in material handling and other crafts belong to a union. Although the union density ratio for white-collar workers as a group (29%) is slightly lower than the overall average,

Table 2

Union membership and coverage of employees by selected characteristics, 1997 *

	Total employed '000	Union membership		Union coverage **		Non- union *** '000
		Total '000	Density %	Total '000	Rate %	
Total	11,414	3,547	31.1	3,881	34.0	7,533
Public / Private sector †						
Public	2,070	1,501	72.5	1,604	77.5	466
Private	9,345	2,046	21.9	2,277	24.4	7,067
Sex						
Men	6,010	1,949	32.4	2,132	35.5	3,878
Women	5,404	1,598	29.6	1,749	32.4	3,655
Age						
15 to 24	1,888	202	10.7	244	12.9	1,644
25 to 54	8,640	3,029	35.1	3,297	38.2	5,343
25 to 44	6,350	2,019	31.8	2,214	34.9	4,137
45 to 54	2,289	1,009	44.1	1,083	47.3	1,206
55 and over	887	317	35.7	340	38.4	546
Educational attainment						
Grades 0 to 8	461	150	32.7	159	34.6	301
Some secondary	1,571	396	25.2	433	27.6	1,138
High school graduation	2,369	681	28.8	739	31.2	1,629
Some postsecondary	1,162	263	22.7	290	25.0	871
Postsecondary certificate or diploma	3,764	1,293	34.4	1,410	37.5	2,354
University degree	2,089	763	36.5	849	40.7	1,240
Province						
Newfoundland	163	64	39.3	67	41.2	96
Prince Edward Island	49	13	26.7	14	28.9	35
Nova Scotia	328	94	28.6	101	30.7	228
New Brunswick	267	75	28.0	80	30.1	186
Quebec	2,750	1,028	37.4	1,151	41.9	1,598
Ontario	4,474	1,246	27.9	1,345	30.1	3,129
Manitoba	437	152	34.9	164	37.5	273
Saskatchewan	351	118	33.6	128	36.5	223
Alberta	1,136	253	22.3	293	25.8	843
British Columbia	1,460	503	34.4	538	36.8	922
Work status						
Full-time	9,336	3,096	33.2	3,383	36.2	5,953
Part-time	2,079	451	21.7	498	24.0	1,580
Industry						
Goods-producing industries	3,003	957	31.8	1,043	34.7	1,961
Agriculture	125	3	2.2	3	2.8	121
Other primary	237	68	28.5	74	31.2	163
Manufacturing	2,043	679	33.2	740	36.2	1,303
Construction	464	123	26.6	135	29.0	329
Utilities ‡‡	135	84	62.1	91	67.1	45
Service-producing industries	8,411	2,590	30.8	2,838	33.7	5,573
Transportation, communication and storage	767	338	44.1	358	46.7	409
Trade	1,926	229	11.9	267	13.9	1,659
Finance, insurance and real estate	664	62	9.4	79	11.8	586
Community, business and personal services †††	4,253	1,436	33.8	1,556	36.6	2,697
Public administration	801	525	65.5	578	72.2	223

Table 2
Union membership and coverage of employees by selected characteristics, 1997 * (concluded)

	Total employed	Union membership		Union coverage **		Non-union ***
		Total	Density	Total	Rate	
	'000	'000	%	'000	%	'000
Occupation						
White-collar	8,248	2,361	28.6	2,604	31.6	5,644
Managerial and administrative	1,657	275	16.6	337	20.3	1,320
Professional	2,268	1,110	48.9	1,194	52.6	1,074
Clerical	1,839	518	28.2	564	30.7	1,275
Sales	981	80	8.2	95	9.7	886
Service	1,503	378	25.2	414	27.6	1,089
Blue-collar	3,166	1,186	37.5	1,277	40.3	1,890
Primary occupations	252	45	17.8	49	19.4	203
Processing, machining and fabricating	1,565	621	39.7	669	42.8	896
Construction	467	197	42.2	210	45.0	257
Transport equipment operating	417	145	34.8	156	37.3	262
Material handling and other crafts	465	178	38.2	193	41.4	272
Firm size						
Under 20 employees	3,980	478	12.0	551	13.8	3,429
20 to 99 employees	3,628	1,124	31.0	1,239	34.2	2,389
100 to 500 employees	2,395	1,120	46.7	1,212	50.6	1,183
Over 500 employees	1,412	825	58.4	879	62.2	533
Job tenure						
1 to 12 months	2,641	340	12.9	410	15.5	2,231
Over 1 year to 5 years	3,293	660	20.1	745	22.6	2,548
Over 5 years to 9 years	1,883	676	35.9	735	39.0	1,148
Over 9 years to 14 years	1,312	554	42.2	598	45.6	714
Over 14 years	2,285	1,316	57.6	1,393	61.0	892

Source: Labour Force Survey

* Average for the January-to-September 1997 period.

** Includes both union members and persons who are not union members, but who are covered by collective agreements.

*** Includes employees who are neither union members nor covered by collective agreements.

t Public sector employees are those working for government departments or agencies, crown corporations or publicly funded schools, hospitals or other institutions. Private sector employees are all other wage and salary earners.

tt Includes electric power systems, water systems, gas distribution systems and waste disposal systems.

+++ Includes business services; education; health and social services; accommodation, food and beverage services; amusement and recreation services; personal and household services; membership organizations; and other services.

the ratio among professional workers (for example, teachers and nurses) at 49% is the highest for all occupational groups studied, blue- and white-collar alike. This helps explain why density ratios are greater among workers with higher education.

■ As expected, union density ratios rise with firm size. During the first three quarters of 1997, they ranged from 12% in firms with fewer than 20 employees to 58% in firms with more than 500 employees.

■ Union density ratios are lowest among employees with low job tenure: only 13% of workers with tenure of 12 months or less belong to a union. The ratio rises with tenure: among workers with job tenure of over 14 years, close to 60% belong to a union – again a reflection of the high ratios observed among older, blue-collar and public sector employees.

Provincial dimension

Union density ratios differ among the provinces. There are several reasons for this, including differences

in industry mix, labour laws and traditions.

■ Employees in Newfoundland are most likely to belong to a union (39%), followed by those in Quebec (37%).

■ Higher-than-average density ratios are also found in Manitoba (35%), British Columbia and Saskatchewan (34% each).

■ Ontario and each of the three Maritime provinces have a union density ratio of slightly under 30%; Alberta has the lowest ratio (22%).

Wages, other benefits and work arrangements

Available raw data show that unionized jobs generally provide higher wages, greater non-wage benefits and in many respects better work arrangements than non-unionized jobs. Of course, the wage rate and other differences reflect many factors in addition to collective bargaining outcomes. These include differences in the distribution of union and non-union employees by age, sex, job tenure, industry, occupation, firm size or geographical location. The effects of these factors are not examined in this paper, but it is clear from the previous sections that unionized workers and jobs tend to have certain characteristics that are associated with higher wages. For example, union density ratios are higher among men, older workers, those with higher education, workers in professional positions, employees with long tenure, and those in larger firms. Clearly, not all differences in wage and non-wage benefits can be attributed to union status.

- In terms of earnings, data from the Labour Force Survey show that the average hourly wage rate of unionized workers during the first nine months of 1997 was higher than that paid to non-union members. This held true whether they worked full time (\$18.84 versus \$15.18) or part time (\$16.74 versus \$9.76) (Table 3).
- Unionized part-time employees not only work longer hours each week than non-unionized employees, they also earn almost twice as much an hour. As a result, their average weekly earnings are double those of the latter.
- In terms of non-wage benefits, such as coverage in an employer-sponsored pension plan or group RRSP, health care plan, dental plan or paid sick leave entitlement, data from the November 1995 Survey of Work Arrangements show that union members

Table 3
Selected job characteristics by union status

	Union employees *	Non-union employees **
Average hourly wage rate (\$)		
All employees	18.57	14.04
Full-time employees	18.84	15.18
Part-time employees	16.74	9.76
Average weekly earnings (\$)		
All employees	679.13	518.96
Full-time employees	730.03	613.58
Part-time employees	329.65	162.61
Average usual weekly hours, main job		
All employees	36.4	35.3
Full-time employees	38.9	40.3
Part-time employees	19.3	16.4
Non-wage benefits		
Percentage of employees:		
covered by pension/group RRSP	82.8	32.9
with supplemental health care plan coverage	83.7	44.4
with dental care plan coverage	77.0	41.9
with paid sick leave entitlement	77.2	44.7
with paid vacation leave entitlement	84.1	65.3
Percentage distribution of paid vacation leave entitlement:		
2 weeks or under	15.9	36.9
over 2 weeks but under 4 weeks	24.2	33.6
4 weeks and over	59.9	29.5
Average annual paid vacation leave entitlement (days)	20.9	15.1
Work arrangements		
Percentage of employees:		
in full-time jobs	87.4	76.7
in permanent jobs	91.1	86.9
in temporary jobs	8.9	13.1
with flexitime arrangement option	16.7	27.1
who work Monday to Friday inclusive only	65.8	58.2
who work both Saturday and Sunday	5.8	8.4
who do some/all of work at home	8.9	9.1
in job-sharing arrangement	12.1	6.8
Paid overtime and overtime rates of pay		
Percentage usually working paid overtime	18.1	11.7
Average number of paid overtime hours usually worked per week	5.4	6.0
Percentage distribution of overtime rate of pay:		
with straight pay	18.7	41.4
with time-and-a-half or double time	78.4	55.6
other	2.9	3.0

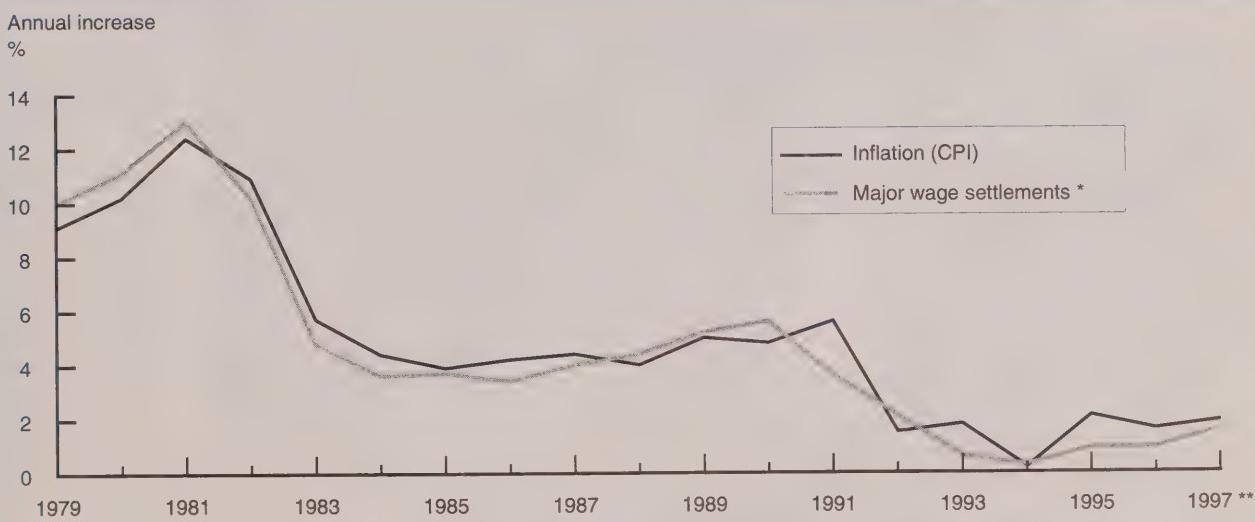
Sources: Labour Force Survey (hourly wage rate, weekly earnings and usual weekly hours; averages for the January-to-September 1997 period) and Survey of Work Arrangements (November 1995)

* Employees who are union members only.

** Employees who are neither union members nor covered by a collective bargaining agreement.

- are about twice as likely as non-unionized workers to enjoy these benefits. For each of these non-wage benefits, coverage was about 80% among unionized workers, compared with 40% among non-unionized employees.
- Furthermore, 84% of union members were entitled to paid vacation leave, compared with 65% of non-unionized workers. Also, the average annual vacation entitlement was longer for the former (21 days versus 15 days).²
 - In terms of work arrangements, also, unionized workers enjoyed some advantages. For example, they were slightly more likely to be in a permanent job (91% versus 87%) and to have a job-sharing arrangement (12% versus 7%). Furthermore, a slightly smaller proportion of unionized employees (6% versus 8%) regularly worked all weekend, that is, both Saturday and Sunday.
 - Unionized employees were more likely than non-unionized employees to work paid overtime each week (18% versus 12%), but when they did so, they worked fewer hours (5.4 hours on average versus 6.0 hours). They were also more likely to receive premium pay for this work: in November 1995, about 78% of unionized workers received time-and-a-half or double time, compared with 56% of non-unionized employees.
 - From 1979 to 1981, major wage settlements slightly exceeded inflation. Both indicators peaked in 1981 with double-digit increases for wage settlements (13.0%) and for inflation (12.4%). Following the 1981-82 recession, both series tumbled to about half their preceding levels and fluctuated within the 3.5%-to-5.5% range between 1983 and 1991. They fell considerably again in the 1990s, partly as a result of wage freeze and even roll-back policies in both the public and private sectors, as well as poor economic performance. Since the early 1980s, inflation has generally surpassed wage settlements (Table 4).
 - So far this year (January to August), there has been a slight upward movement in both series, with wage settlements running at 1.6% and inflation at 1.9%.

Chart C

Wage increases and inflation rates generally move in tandem.

Sources: Workplace Information Directorate, Human Resources Development Canada, and Prices Division, Statistics Canada

* Major wage settlements refer to agreements involving 500 or more employees. Figures represent average annual percentage increases in base wage rates.

** 1997 data refer to January to August only.

**Table 4
Major wage settlements and inflation rates**

Year	Average annual percentage increase in base wage rates			Annual change in Consumer Price Index
	Public sector *	Private sector *	Both sectors	
%				
1979	9.5	10.9	10.0	9.1
1980	10.9	11.6	11.1	10.2
1981	13.1	12.7	13.0	12.4
1982	10.4	9.7	10.2	10.9
1983	4.6	5.4	4.8	5.7
1984	3.9	3.2	3.6	4.4
1985	3.8	3.4	3.7	3.9
1986	3.6	3.0	3.4	4.2
1987	4.1	3.8	4.0	4.4
1988	3.9	5.0	4.4	4.0
1989	5.2	5.2	5.2	5.0
1990	5.6	5.7	5.6	4.8
1991	3.4	4.3	3.6	5.6
1992	2.0	2.5	2.1	1.5
1993	0.5	0.9	0.6	1.8
1994	-	1.2	0.3	0.2
1995	0.6	1.4	0.9	2.1
1996	0.4	1.9	0.9	1.6
1997 **	0.9	2.2	1.6	1.9

Sources: Workplace Information Directorate, Human Resources Development Canada, and Prices Division, Statistics Canada

Note: Major wage settlements refer to agreements involving 500 or more employees.

* Public sector employees are those working for government departments or agencies, crown corporations or publicly funded schools, hospitals or other institutions. Private sector employees are all other wage and salary earners.

** 1997 data refer to January to August only.

and unions, business restructuring, and the effects of increased globalization of the economy, to name a few, have all had an effect.

- In 1980 and 1981, there were over 1,000 strikes and lockouts and about 9 million person-days lost. In spite of fluctuations, the numbers reveal an overall decreasing trend over the years; by 1994 and 1995, despite a larger workforce, strikes and lockouts had fallen to roughly 350, and the resulting person-days lost to around 1.6 million.
- Labour unrest appears to be on the rise again. For example, even though the number of strikes and lockouts in 1996 (328) was the same as that of 1995, twice as many workers were involved (284,000). As well, the number of

**Table 5
Strikes and lockouts, workers involved and days lost**

Year	Strikes & lockouts	Workers involved	Person- days not worked	
			'000	'000
1980	1,028	439	9,130	
1981	1,050	342	8,851	
1982	680	464	5,713	
1983	645	329	4,441	
1984	716	187	3,883	
1985	829	162	3,126	
1986	748	484	7,151	
1987	668	582	3,810	
1988	548	207	4,901	
1989	627	445	3,701	
1990	579	270	5,079	
1991	463	253	2,516	
1992	404	150	2,110	
1993	381	102	1,517	
1994	374	81	1,607	
1995	328	149	1,582	
1996	328	284	3,340	
1997 *	180	43	1,256	

Source: Workplace Information Directorate, Human Resources Development Canada

* 1997 data refer to January to June only.

- Major wage settlements in the public and private sectors have also moved fairly well in tandem; however, with the exception of 1989 when they matched, overall private sector settlements have since 1988 exceeded those in the public sector. Between 1993 and 1996 overall settlements in the public sector have averaged less than 1% each year, while those in the private sector ranged between 0.9% and 1.9%. The pace in wage settlement has picked up slightly so far this year (January to August 1997), with gains in the public sector amounting to 0.9% and in the private sector 2.2%.
- Annual statistics on strikes, lockouts and person-days lost are affected by several factors, including the nature of collective bargaining timetables, the size of the unions involved, and the state of the economy. That notwithstanding, the number of strikes and lockouts and the resulting person-days lost in 1996, despite a larger workforce, were only one-third the levels of 1980 (Table 5).
- There are several reasons for the abatement: the recessions of the early 1980s and 1990s, the adoption of innovative approaches to industrial relations by employers

person-days lost in 1996 was more than twice that of 1995 (3.3 million versus 1.6 million). This year, by the first six months, 1.3 million person-days had been lost because of strikes and lockouts. In addition, several major unions and their employers were engaged in serious disputes at the time of writing this article.

International comparisons

Even though the sources, methods and scope of union membership data vary from country to country, the figures compiled by the OECD show striking differences in union density ratios among 19 of its member countries.

- In the mid-nineties, high density ratios were recorded in Sweden (91%), Finland (81%) and Denmark (76%); in contrast, Spain, the United States and France had fewer than one in 5 unionized

Table 6
Union density ratios of selected OECD countries

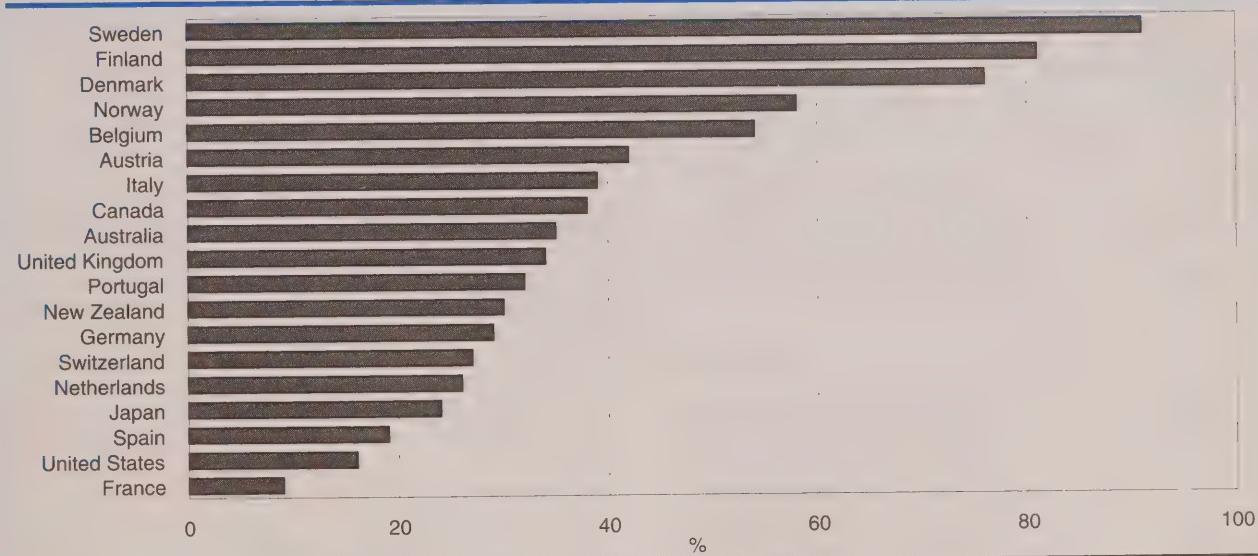
	Trade union density	
	1980	1994 *
Australia	48	35
Austria	56	42
Belgium	56	54
Canada	36	38
Denmark	76	76
Finland	70	81
France	18	9
Germany	36	29
Italy	49	39
Japan	31	24
Netherlands	35	26
New Zealand	56	30
Norway	57	58
Portugal	61	32
Spain	9	19
Sweden	80	91
Switzerland	31	27
United Kingdom	50	34
United States	22	16

Source: Employment Outlook, July 1997

* See Chart D for exceptions to the 1994 reference year.

Chart D

Union density ratios are highest among the Scandinavian countries.



Source: Employment Outlook, July 1997

Note: All data refer to 1994 except for Denmark (1993), Finland (1995), Germany (1993), Italy (1992), the Netherlands (1993), Portugal (1990), Sweden (1993) and Switzerland (1992).

workers. Canada was in the middle of the range (Chart D, Table 6).³

■ France presented a unique position in the sense that while only 9% of its workers were union members, almost everyone (95%) was covered by a collective bargaining agreement. As expected, collective bargaining coverage rates in most other countries exceeded the density ratios.

Summary

Although one in 3 employees in Canada today belongs to a union – as has been the case for the past three decades – the mix of union membership has changed. Men's proportion has declined and the international unions have lost their predominance over the years: the sexes are now fairly equally represented, and by 1992 only 3 in 10 members belonged to an internationally affiliated union. Also, even though a blue-collar worker is still more likely to be a union member, some white-collar professions, particularly teaching and nursing, boast high union rates. And unionized workers are growing older, in part because of an aging blue-collar and public sector workforce.

Unionized jobs generally provide higher wages, greater benefits and better work arrangements than non-unionized jobs, but not all differences can be attributed to union status. Other factors playing a role include firm size, job tenure, education, age and sex.

After a prolonged "cooling off" period, the past year-and-a-half has witnessed some resurgence of labour unrest. Similarly, wage increases and inflation have seen a slight upward movement so far this year.

Internationally, data on union density ratios compiled by the OECD paint a mixed picture of the 19 member countries studied. Between 1980 and 1994, 5 of the countries (including Canada) recorded an increase in ratio, 13 had decreases and one saw no change. □

Notes

1 CALURA density ratios in the construction industry in particular have traditionally been higher than those captured by household surveys like the Labour Force Survey, mainly because CALURA union membership includes both the unemployed and retired, and the household surveys do not.

2 Although federal and provincial employment standards and labour laws generally entitle employees to at least two weeks of paid vacation, some workers do not enjoy such a benefit. These include some contract, term, on-call and casual workers. It is also conceivable that some workers who are expected to take pay in lieu of vacation time may have stated erroneously that they were not entitled to paid vacation.

3 The OECD density ratios for Canada are slightly higher than those captured by CALURA. The former come from the 1995 OECD Survey of Canada.

References

Akyeampong, E.B. "Work arrangements: 1995 overview." *Perspectives on Labour and Income* (Statistics Canada, Catalogue no. 75-001-XPE) 9, no. 1 (Spring 1997): 48-52.

Eaton, J.K. *Union Growth in Canada in the Sixties*. Ottawa: Labour Canada, 1976.

Galarneau D. "Unionized workers." *Perspectives on Labour and Income* (Statistics Canada, Catalogue no. 75-001-XPE) 8, no. 1 (Spring 1996): 43-52.

Organisation for Economic Co-operation and Development (OECD). *Employment Outlook*. Paris: OECD, July 1997.

Rea, K.J. *A Guide to Canadian Economic History*. Toronto: Canadian Scholars' Press, 1991.

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What's new?

■ JUST RELEASED

■ *Household repairs*

Canadians spent \$12 billion on their own home repairs and renovations in 1995. This information comes from the Homeowner Repair and Renovation public-use microdata file, which uses data from the Homeowner Repair and Renovation Survey and the Home Energy Retrofit Survey. Both surveys were carried out in March 1996 as a supplement to the Labour Force Survey and refer to calendar year 1995. They provide information on homeowners living in private households. Variables available in the file include province, size of area of residence, type of dwelling, age of reference person, total household income and period of construction. Considerable information about expenditures, as well as planning for these expenditures and reasons for conducting repairs and renovations, is also available. The retrofit survey was implemented to measure energy retrofit activities in the home, which include features added to reduce energy consumption.

To order the public-use microdata file, contact the Dissemination Unit, Household Surveys Division at (613) 951-7355 or 1 888 297-7355; fax (613) 951-3012; Internet: expenditures@statcan.ca. □

■ *Taking stock of business*

Some 941,700 employer-businesses were counted in Canada in 1995, a net increase of 2% from 1989. There were 467,200 businesses active throughout the 1989-to-1995 period, representing 85% of 1995 employment. The 474,500 businesses newly identified since 1989 provided the remaining 15% of employment.

Businesses with fewer than five employees represented 78% of all businesses in 1995, compared with 76% in 1989. Their share of total employment rose to 10% from 8%.

Employment Dynamics, 1995 is based on the Longitudinal Employment Analysis Program (LEAP), which covers all businesses with at least one employee active anytime between 1983 and 1995. The tables include employer-businesses and payroll and employment data by province, territory and industry. Tabulated by employment size and life status of business, the data are available in tables comparing the 1989-to-1995 period and the 1994-to-1995 period.

For further information on this release, or to purchase these tables, contact Gwen Cromwell, Small Business and Special Surveys Division at (613) 951-2439; Internet: cromgwe@statcan.ca. □

■ *Household surveys on income and families*

Dual-earner families

Changes in labour market and demographic factors have contributed to a growing income gap between dual- and single-earner two-partner families. (Two-partner families are defined here as either husband-wife or common-law relationships.) When adjusted for inflation, the average 1995 pre-tax income of dual-earner families was \$68,900, virtually the same as in 1989. Conversely, single-earner families had a pre-tax average of \$50,000 in 1995, 10.6% lower than in 1989.

Once income taxes are factored in, the gap was somewhat reduced, with both family types experiencing declines between 1989 and 1995. Taxes for dual-earner families rose during this period, bringing after-tax income down 2.4% to \$53,900 in 1995. Because of lower pre-tax income, income taxes for single-earner families fell, resulting in a 9.6% decline in after-tax income (to \$40,100 in 1995).

Families in which neither partner reported earnings have been steadily increasing in proportion since 1967, mainly because of a growing number of elderly families. Families in which neither partner worked had a 1995 pre-tax average income of \$34,700, average income taxes of \$3,900, and an after-tax income of \$30,800.

Characteristics of Dual-earner Families, 1995 (Catalogue no. 13-215-XPB, \$28) is now available. Microdata files containing data on the 1995 incomes and earnings of economic families and individuals aged 15 years and over, along with sociodemographic characteristics, are also available.

For further information, or to order custom tabulations, contact the Dissemination Unit, Household Surveys Division at (613) 951-7355 or 1 888 297-7355; Internet: income@statcan.ca.

Households, families and individuals

Four microdata files containing 1995 income data for households, economic families, census families and individuals are now available. A key file that allows users to link the files for further analysis is also

available. Each file costs \$2,000. Sales tax, where applicable, will be added.

In addition to income by source data (for example, earnings, investment income, government transfer payments), the files contain personal, family and labour-related characteristics such as age, sex, education, family relationship, occupation and labour force status. The household file includes additional information on housing characteristics and household facilities and equipment.

The 1995 income data were collected as part of the 1996 Survey of Consumer Finances (SCF). The housing, facilities and equipment data were collected by the 1996 Household Facilities and Equipment Survey (HFE). The SCF and HFE surveys are conducted every spring as a supplement to the Labour Force Survey.

The household file contains approximately 32,000 records; the economic family file, 34,000; the census family file, 35,000; the individual file, 67,000; and the key file, 85,000.

For further information on these files, contact the Data Dissemination Unit, Household Surveys Division at (613) 951-7355 or 1 888 297-7355; fax (613) 951-3012; Internet: income@statcan.ca. □

■ **Data on income**

Data derived from 1995 income tax returns filed in the spring of 1996 provide information on income, as well as demographic profiles of small areas.

The data, published in *Seniors' Income, 1995* (Product no. 89C0022), are available by province or territory; city, town or census metropolitan area; census division; forward sortation area (first three characters of the postal code); and postal walk (grouping of postal codes). Data are available for more than 26,000 postal areas.

Among the census metropolitan areas, the median total income for senior (at least one partner aged 65 years or older) husband-wife families ranged from \$52,300 in Ottawa-Hull (Ontario side) to \$30,000 in Sherbrooke, Quebec.

Another release, *Labour Force Income Profiles, 1995* (Product no. 71C0018), is also based on returns filed in 1996 and covers the same geographical areas as the former.

The tax data are useful in market research and policy planning. Since these profiles are an enumeration of taxfilers, the data for cities and smaller areas are similar in reliability to national and provincial data.

For further information on these releases, contact Client Services, Small Area and Administrative Data Division at (613) 951-9720; fax (613) 951-4745; Internet: saadinfo@statcan.ca. □

■ **Articles from Canadian Social Trends**

Changes in women's work continuity

Long-term employment interruptions, or employment discontinuity, affect future employability, advancement opportunities, earnings, and attitudes of employers and co-workers. Since work and income are considered important to one's sense of identity, employment discontinuity can affect psychological and emotional well-being as well.

Because women are more likely to interrupt their employment for long periods, their attachment to the labour force has traditionally been viewed as weaker than men's. But over the last 30 years, women's participation in the paid workforce has increased dramatically. By 1995, most (91%) women aged 20 and over had worked for pay at some time during their lives. Contemporary women have also shown increased attachment to life-long careers, reporting fewer and shorter periods of employment discontinuity than earlier generations of women. However, they continue to experience more career discontinuity than men, and they experience longer interruptions. This article describes how women's employment continuity has changed.

Today, women are less likely to interrupt their paid work, and when they do so, they return to work more quickly. Better opportunities for postsecondary education have improved the employability of women. And legislation now protects the jobs of workers on maternity leave. Women's earnings are also increasing relative to men's and represent a larger proportion of family income than in the past.

There will always be work interruptions. But their likelihood, frequency and duration are changing. According to the article, family-friendly work arrangements and employment policies allow more women to remain in the workforce and still care for children and other family members.

For further information about this article (which appears in the Autumn 1997 issue of *Canadian Social Trends* [Catalogue no. 11-008-XPE]), contact Janet Fast, University of Alberta at (403) 492-5768; fax (403) 492-6345; Internet: janet.fast@ualberta.ca. □

Declining earnings of young men

Generally speaking, newcomers in the job market start out with lower pay than older workers. Since the early

1980s, this earnings gap has been growing. It now takes longer for young men with low earnings to reach a higher income bracket.

Even after taking into account the drop in real earnings and the relatively high unemployment rates observed since the mid-1980s, it has been harder for young working men under age 35 to "move up" the earnings scale (earn more than \$21,100 per year). More and more young people work part time while attending college or university; as a result, a larger proportion of them have had low earnings for a long time.

As well, young workers seeking employment in the 1980s and early 1990s may have faced greater problems finding well-paid permanent jobs than their predecessors in the 1970s. Some of these difficulties may stem from the shift in employment from manufacturing to lower-wage service sector jobs, but the demand for highly skilled workers is also a factor. It is also possible that technology has made it easier for firms to globalize operations and to contract out to small, low-wage suppliers, in turn depressing the earnings of young working men.

For further information about this article (also in the Autumn 1997 *Canadian Social Trends*), contact René Morissette at (613) 951-3608; fax (613) 951-5403; Internet: moriren@statcan.ca. □

■ Latest on the labour force

The third issue of *Labour Force Update* (Catalogue no. 71-005-XPB) covers self-employment. Following are highlights:

- Between 1989 and 1996, the self-employed accounted for over three-quarters of total job growth. Business owners in their main job grew by 460,000 (25%) to 2.3 million, while the number of employees increased by only 133,000 (1%). As a result, the self-employed in 1996 made up about 17% of all workers, up from 14% in 1989.
- The majority of the increase in self-employment this decade has been among business owners without employees. Consequently, about 38 of every 100 business owners had employees in 1996, down from 45 seven years earlier.
- Much of this decade's self-employment growth has come from services to business (for example, computer, accounting, advertising, engineering and management consulting services).
- Overall, about 90% of the recent growth in self-employment has been due to greater business ownership within industries. The other 10% is the result of a shift in jobs to industries in which self-employment has been common. Agriculture,

personal and household services, construction, and business services had the highest rates of self-employment in 1996.

For another look at the data from *Labour Force Update*, see "Key labour and income facts" in this issue. For additional information on this publication, contact Geoff Bowlby at (613) 951-3325; Internet: bowlgeo@statcan.ca or Jean-Marc Lévesque at (613) 951-2301; fax (613) 951-2869; Internet: levejea@statcan.ca. □

■ Analytical Studies Branch research paper series

Divergent Inequalities – Theory and Empirical Results

M.C. Wolfson

Research Paper Series no. 66 (Originally released in May 1995; revised in July 1997)

This paper is principally about methods of income distribution analysis, particularly the foundations for claims about the extent of or trend in inequality. Analysis of income distribution trends has increased. However, this growth has been accompanied by a somewhat undisciplined expansion in statistical methods. Occasionally, prose conclusions are not supported by the statistics cited. This paper looks at the sources of gaps between evidence cited and conclusions drawn.

Widely used summary measures of inequality or the "disappearing middle class" are potentially misleading. They sometimes fail to distinguish between concepts of inequality and polarization, and are not consistent with rankings based on Lorenz curves. In addition, some observers make inappropriate claims about trends in inequality by looking only at sub-populations – such as full-time male workers – and failing to account for sampling variability. These divergences are illustrated with Canadian data on labour incomes over the 1967-to-1994 period.

Are Canadians More Likely to Lose Their Jobs in the 1990s?

G. Picot and Z. Lin

Research Paper Series no. 96

Job instability can take various forms and be measured in numerous ways. As part of a comprehensive research effort to examine job instability, this paper uses data from the Longitudinal Worker File (LWF) on the separations of Canadian workers from 1978 to 1993 to assess one dimension of job instability: permanent layoffs. The key question addressed is "have permanent layoffs in Canada increased in the

1980s and early 1990s compared with the late 1970s?" The permanent layoff rate is examined and logistic regressions performed to predict the probability of permanent layoffs. The analysis is undertaken for all workers as well as for particular sub-groups.

The data further show that the Canadian labour market adjusts to structural changes more through depressed hirings than increased layoffs. While the risk of permanently losing one's job was no higher than in earlier comparable periods, the chance of finding a new job was considerably lower, at least in the aggregate. Furthermore, most job creation in the 1990s has been in self-employment, with its relatively unstable earnings.

Permanent Layoffs in Canada: Overview and Longitudinal Analysis

G. Picot, Z. Lin and W. Pyper
Research Paper Series no. 103

Canadians are increasingly concerned about permanent layoffs. Many believe that job instability and the possibility of job loss have increased in the 1990s. Governments, confronted with a large number of permanent layoffs each year, need to respond appropriately in order to improve labour adjustment so that displaced workers can find new jobs. This paper uses a new longitudinal data source on the separations of workers to address three issues. First, has there been an increase in the permanent layoff rate in Canada in the 1990s? Second, what are the underlying causes of most permanent layoffs? The paper examines the role played by the business cycle, by changes in industrial demand – often associated with structural change – and by firm size.

Third, with this as background, the core of the paper asks a question of concern to policy analysts: are most permanent layoffs rare events for workers, or are they a continuation of a pattern of repeat layoffs? A worker who is rarely confronted with a layoff will require post-displacement adjustment assistance different from that provided to someone who has been laid off frequently. Workers'

employment history over 10 years is used to explore the relationship between permanent layoff history and the probability of being laid off. Displaced workers are classified as "low-risk," "medium-risk" and "high-risk" based on their history. Multinomial logistic analysis is used to distinguish worker and firm characteristics associated with repeat layoffs or layoffs as rare events.

The Importance of Research and Development for Innovation in Small and Large Canadian Manufacturing Firms

J.R. Baldwin
Research Paper Series no. 107

The debate over the appropriate function of government policy for research and development (R & D) subsidies brings into focus the different roles played by large and small firms in the innovation process. It is often claimed that small and large firms tend to use R & D facilities differently. This paper examines the differences in the innovation profiles of small and large firms, and looks at how R & D intensity and efficacy vary by size of firm. It investigates the contribution of R & D to small and medium firms, as well as the types of policy that small ones find most appropriate in reducing impediments to innovation.

Most differences between small and large firms are explained by the advantages each size brings to certain phases of the production process. Small firms are more flexible but can suffer from scale-related cost disadvantages. They overcome these problems by networking with their customers and by being flexible. They rely less on dedicated R & D facilities and more on the use of R & D as opportunities arise.

To order studies in the Research Paper Series, contact your nearest Statistics Canada Regional Reference Centre, or write to Publications Review Committee, Analytical Studies Branch, Statistics Canada, 24th floor, R.H. Coats Building, Ottawa, Ontario K1A 0T6. Or phone (613) 951-1804; fax (613) 951-5403. □

Key labour and income facts

The following is a guide to data sources for labour market, business, income and earnings, pension, education and other household topics. Each quarter, this section will present charts and analysis featuring one or more of these sources. For general inquiries, please contact Joanne Bourdeau at (613) 951-4722; Internet: bourjoa@statcan.ca or Jeannine Usalcas at (613) 951-4628; Internet: usaljea@statcan.ca.

Administrative data

Small area and administrative data
Frequency: Annual
Customer Services:
(613) 951-9720

Business surveys

Annual Survey of Manufactures
Frequency: Annual
Contact: Richard Vincent
(613) 951-4070

Business Conditions Survey of Manufacturing Industries
Frequency: Quarterly
Contact: Claude Robillard
(613) 951-3507

Census

Census labour force characteristics
Frequency: Quinquennial
Contact: Michel Côté
(613) 951-6896

Census income statistics
Frequency: Quinquennial
Contact: Abdul Rashid
(613) 951-6897

Employment and income surveys

Labour Force Survey
Frequency: Monthly
Contact: Nathalie Caron
(613) 951-4168

Survey of Labour and Income Dynamics
Frequency: Annual
Contact: SLID Client Services
(613) 951-7355

Survey of Consumer Finances

Frequency: Annual
Contact: Réjean Lasnier
(613) 951-5266

Survey of Employment, Payrolls and Hours
Frequency: Monthly
Contact: Sylvie Picard
(613) 951-4090

Help-wanted Index
Frequency: Monthly
Contact: Sylvie Picard
(613) 951-4090

Employment Insurance Statistics Program
Frequency: Monthly
Contact: Sylvie Picard
(613) 951-4090

Major wage settlements
Bureau of Labour Information
(Human Resources Development Canada)
Frequency: Quarterly
Contact: (819) 997-3117

Labour income
Frequency: Quarterly
Contact: Anna MacDonald
(613) 951-3784

Household Facilities and Equipment Survey
Frequency: Annual
Contact: Réjean Lasnier
(613) 951-5266

General Social Survey

Education, work and retirement
Frequency: Occasional
Contact: Jennifer Hubbard
(613) 951-5979

Social and community support

Frequency: Occasional
Contact: Jennifer Hubbard
(613) 951-5979

Time use
Frequency: Occasional
Contact: Jennifer Hubbard
(613) 951-5979

Pension surveys

Pension Plans in Canada Survey
Frequency: Annual
Contact: Thomas Dufour
(613) 951-2088

Quarterly Survey of Trusteed Pension Funds
Frequency: Quarterly
Contact: Thomas Dufour
(613) 951-2088

Special surveys

Survey of Work Arrangements
Frequency: Occasional
Contact: Ernest Akyeampong
(613) 951-4624

Adult Education and Training Survey
Frequency: Occasional
Contact: Steve Arrowsmith
(613) 951-0566

Graduate Surveys (Postsecondary)
Frequency: Occasional
Contact: Bill Magnus
(613) 951-4577

Percentage annual growth in self-employment and employees

% change from previous year



Source: Labour Force Survey

Note: 1997 refers to percentage change in average employment for the first nine months of the year compared with the same period in 1996.

Growth in self-employment is far from new

- In the 1980s, year-over-year increases in self-employment averaged 2.4%, slightly higher than the average growth rate of 1.9% for paid employment.
- But the pace of growth has picked up in the 1990s – with annual increases averaging 3.3%, greatly overshadowing the 0.2% growth in paid employment.

- So far, 1997 appears to be well in line with the strong upward trend. Compared with the first nine months of 1996, average paid employment for January to September 1997 edged down 0.2%, while self-employment surged ahead by 11.5%.

Index of employment growth by class of main job

	Growth among			Share of growth from		Compound annual growth rate	
	Total self-employed	Employers	Own account	Employers	Own account	Employers	Own account
'000							
1976 to 1989	671.5	357.4	314.1	53	47	4.6	3.2
1989 to 1996	468.1	46.1	421.9	10	90	0.8	5.5

Source: Labour Force Survey

* Includes owners of incorporated and unincorporated businesses with paid employees.

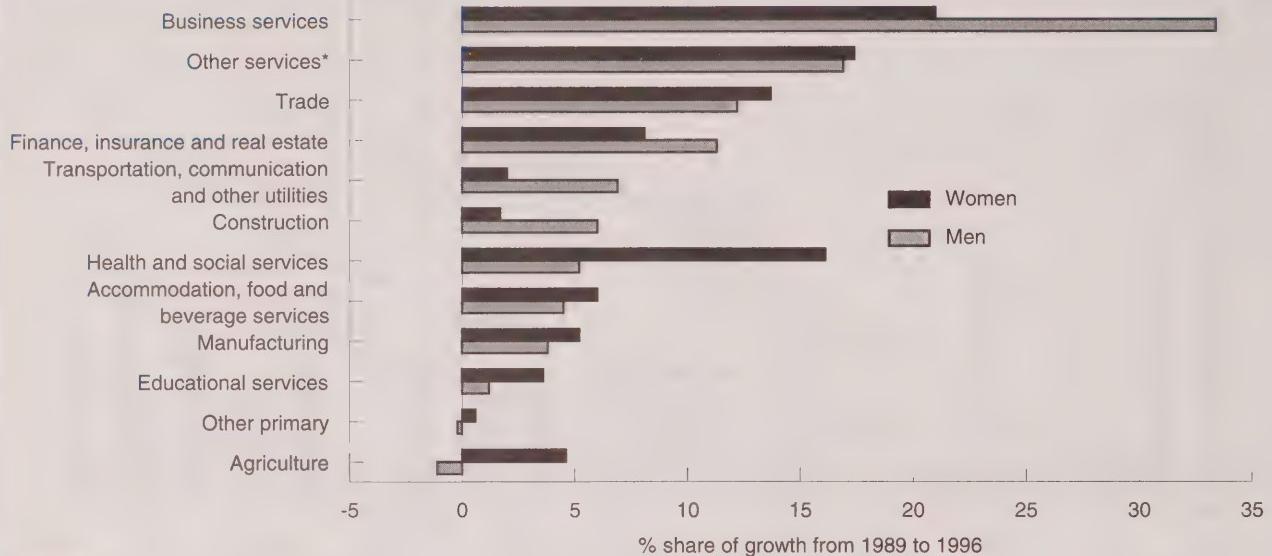
** Includes owners of incorporated and unincorporated businesses without employees.

Most growth is among the self-employed without employees

The nature of self-employment growth has changed since the late 1970s. Between 1976 and 1989, 53% of the growth in self-employment was among business owners with paid help (employers). Thus, for each additional employer, at least one paid job was also created. Undoubtedly, this

contributed to the strong growth in paid employment during the expansion years of the 1980s. In sharp contrast, employers accounted for very little of the net growth in self-employment between 1989 and 1996: only about 10%. Nine-tenths of the growth in self-employment in the 1990s has come from entrepreneurs without employees (own account).

Distribution of growth in self-employment, by industry and sex



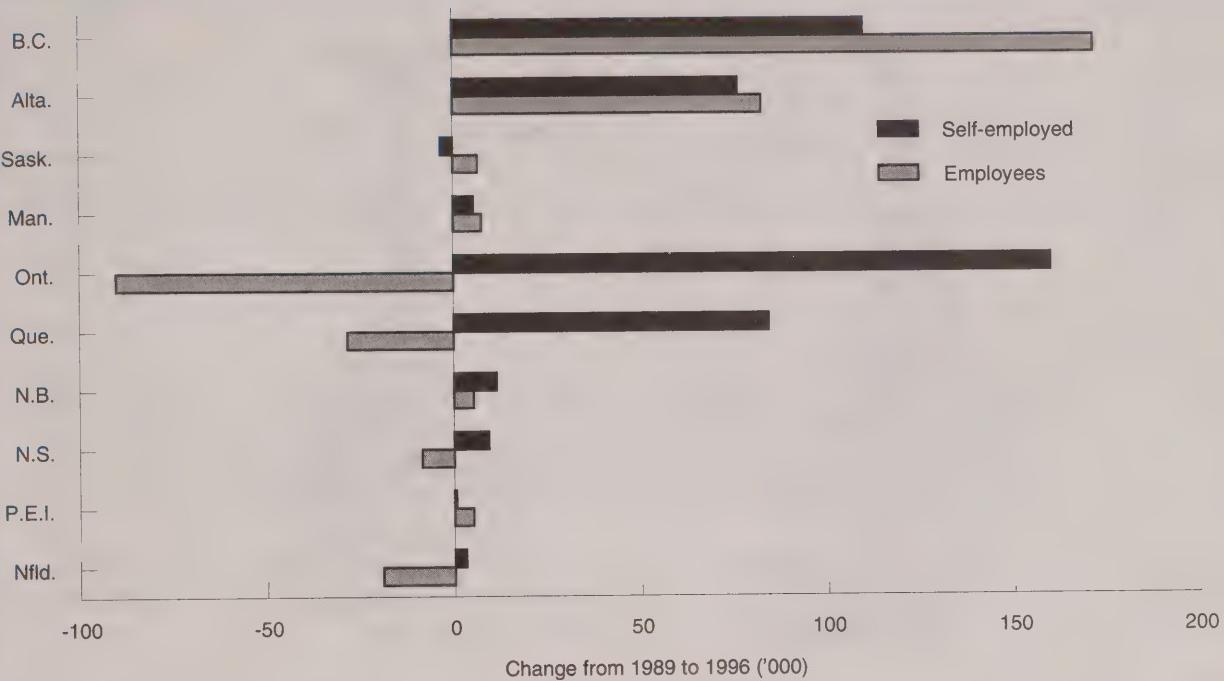
Source: Labour Force Survey

* Includes amusement and recreational services; personal and household services and other services.

Business services important source of growth in self-employment in the 1990s

- The number of self-employed men grew by 240,000 between 1989 and 1996. Three-quarters of this growth was concentrated in four service industries.
- One-third of the increase was among men providing services to other businesses (business services). Within this industry, gains were especially strong in computing services (up 22,000, to 35,000) and management consulting (up 19,000, to 32,000).
- A further 17% of the growth in self-employment for men was in "other services," with gains most notable among those offering janitorial and window cleaning services (up 13,000, to 34,000). About 12% was among men running retail or wholesale establishments, and an additional 11% in finance, insurance and real estate – primarily insurance and real estate agencies, which increased by 17,000 over the period, to 55,000.
- Men's growth in self-employment has been almost matched by women's (up 217,000). While the same four service industries have been important areas of growth for both sexes, 16% of women's net growth has come from businesses in health and social services, compared with only 5% for men.
- For women, one-fifth of the increase took place in business services, essentially among accountants and bookkeepers (up 9,000, to 18,000), management consultants (up 9,000, to 15,000) and those providing "other business services" (up 13,000, to 26,000).
- A further 17% of women's self-employment growth was in "other services," with gains most notable among those with beauty shops (up 11,000, to 37,000). Women providing services to private households gained 5,000, growing to 107,000.
- New businesses in wholesale and retail trade accounted for an additional 14% of the overall growth in women's self-employment from 1989 to 1996.
- Self-employment in finance, insurance and real estate grew less for women (8%) than men (11%); nevertheless, the number of self-employed women in insurance and real estate agencies more than doubled, to 24,000.
- As mentioned, much of women's growth came from new businesses in health and social services. Gains were particularly strong in day care and homemaking services (up 23,000, to 38,000).

Change in employment by province

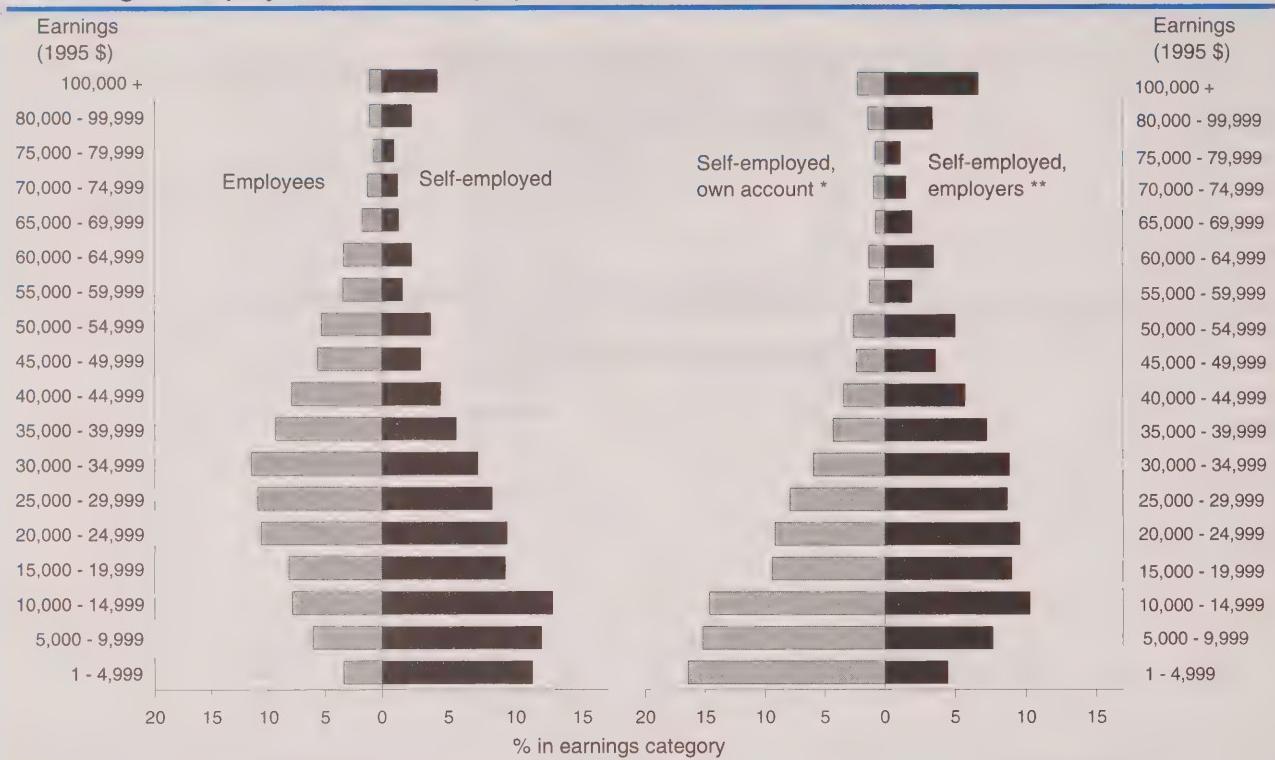


Provincial trends vary

- So far in the nineties, self-employment has driven net employment growth at the national level. This has not been the case in all provinces.
- In central Canada, self-employment has accounted for all of the net growth in jobs, with paid employment declining.
- In British Columbia and Alberta, both paid and self-employment have grown rapidly.
- Saskatchewan is the only province to experience a decline in self-employment since 1989.

- Ninety percent of the extraordinary growth has come from those who work without paid help. Nationwide, the proportion of employers has dropped 7 percentage points since 1989.
- In Ontario and Quebec, the shift to own account has been greater than average, while a drop of over 9 percentage points has taken place in the proportion of employers.
- A considerable shift to own account has also occurred in British Columbia and Alberta. In contrast, employers have gained ground in Prince Edward Island, Manitoba and Saskatchewan.

Percentage of employees and self-employed in the following earnings categories, 1995



Source: Survey of Consumer Finances

Note: See Data source and methodology for further explanations of earnings and population criteria.

* Includes owners of incorporated and unincorporated businesses without employees.

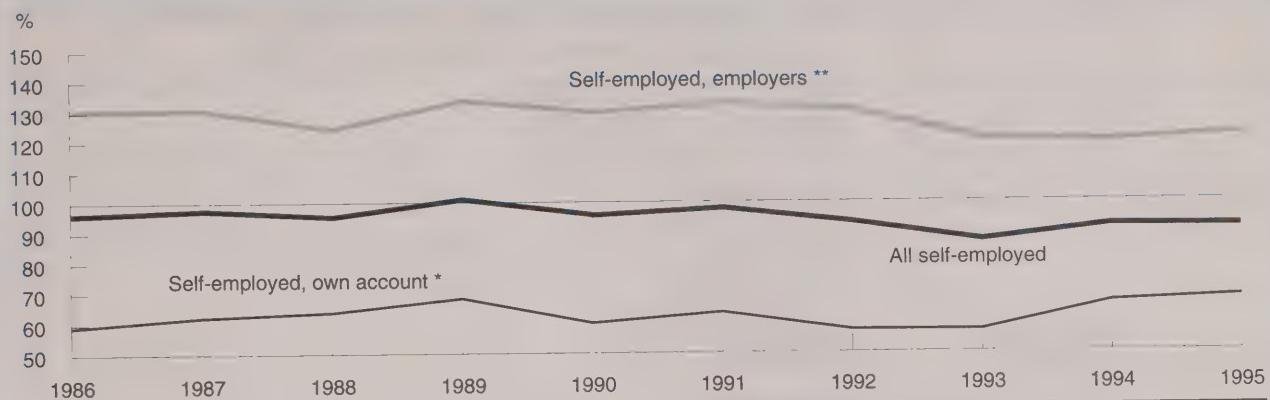
** Includes owners of incorporated and unincorporated businesses with paid employees.

Earnings of the self-employed are more polarized

- In 1995, the latest year for which earnings data are available, those who were self-employed in their main job earned an average \$30,800 – 91% of employees' wages and salaries.
- Self-employed individuals who were employers earned 22% more than employees. This group made, on average, about \$41,000 in 1995. Those without employees, on the other hand, earned \$22,900 – 68% of employees' wages and salaries.
- Even though the average earnings of the self-employed were close to those of paid workers, the self-employed tended to make either small or large amounts of money. In other words, their earnings were more "polarized."

- About 45% of the self-employed made less than \$20,000 in 1995, while the proportion of paid workers making the same amount was just 26%. However, during the same year, 4% of the self-employed but only 1% of employees made more than \$100,000.
- In 1995, 7% (48,900) of self-employed employers earned in excess of \$100,000.
- Because the self-employed are more likely than employees to fall into the lower and higher earnings groups, and because so many earn relatively low amounts, their median earnings are much lower than their average earnings. In 1995, the median earnings of the self-employed were 69% of paid workers'.

Self-employed earnings as a percentage of employee earnings



Source: Survey of Consumer Finances

* Includes owners of incorporated and unincorporated businesses without employees.

** Includes owners of incorporated and unincorporated businesses with paid employees.

In the 1990s, the self-employed have averaged less than employees

- Compared with employees' earnings, those of the self-employed were highest in 1989, when they were 1% above the employee average.
- Over the next four years, self-employment earnings fell to 87% of employees' wages and salaries. Both employers and the own account self-employed experienced a drop in relative earnings.

Data source and methodology

The Survey of Consumer Finances (SCF) is an annual supplement to the Labour Force Survey, designed to collect detailed data on the income of individuals, families and households. Respondents are asked their income sources, including "wages and salaries" and "self-employment income" from all jobs held during the year.

Some key points about the data should be kept in mind:

- a) Because the SCF is conducted in April and asks questions on earnings in the previous calendar year, there can be discontinuity between how the worker is classified in the survey month and the types of earnings attained in the previous year. For example, a person may be self-employed in April without having earned any self-employment income in the previous year if he or she has recently moved from paid employment. To eliminate this problem, this analysis looks only at paid employees and the self-employed who had the same job or business for at least 16 months.

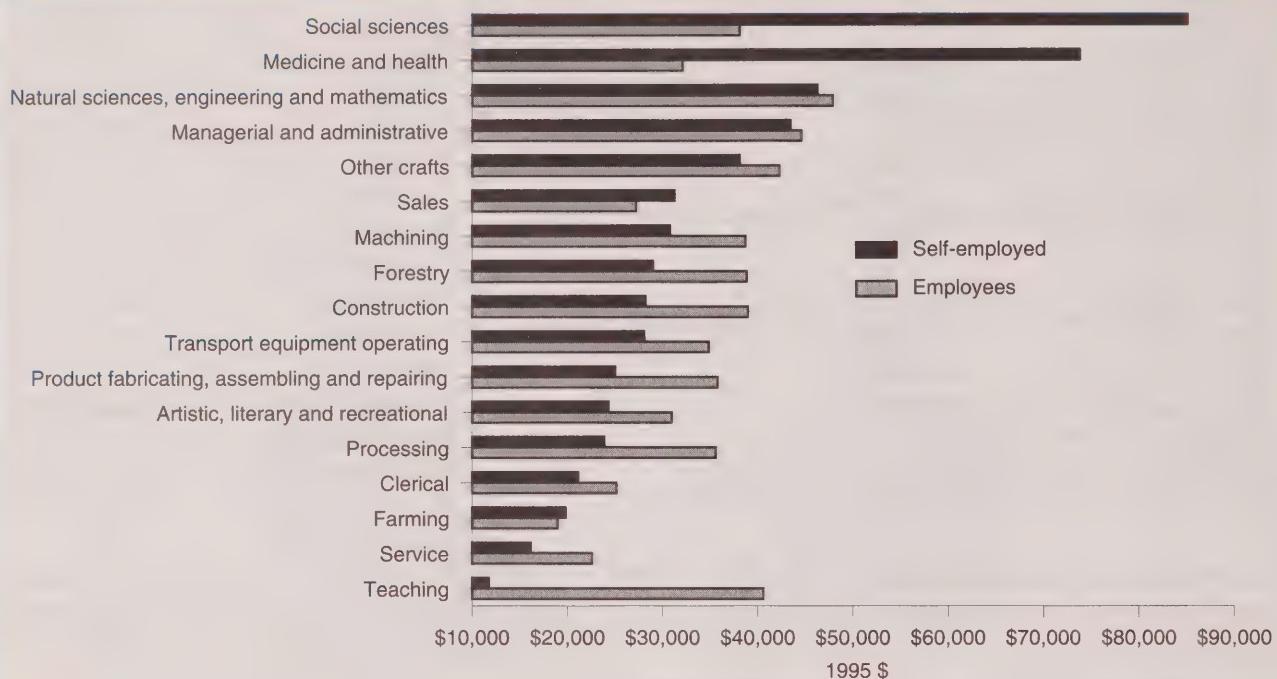
Both paid workers and the self-employed who reported negative or zero earnings were excluded. This and the job

- As a result of increases in the earnings of own account self-employed, the situation for all self-employed improved in 1994. In 1995, the relative earnings of all self-employed changed little.
- About one-quarter of the drop in relative earnings is due to a shift in the jobs of the self-employed. For example, compared with 1989, a smaller proportion of the self-employed worked as managers, while a greater percentage worked in lower-paying service and artistic occupations.

tenure restriction reduces the studied self-employed population by about 506,000 (23%) and employees by 2,850,000 (25%). Even though this introduces a selection bias to both samples, for the purposes of studying earnings it is believed to be a more appropriate selection of the population.

These two restrictions cause average earnings for employees to increase from \$28,900 to \$33,700 and for the self-employed, from \$25,500 to \$30,800. As a result, the ratio of self-employment earnings to employees' wages and salaries increases from 88% to 91%.

- b) No attempts are made to control for hours worked. However, although not specifically implemented to standardize the hours of the two samples, the job tenure restriction, to a certain degree, does just that. For most comparisons, findings for full-year/full-time workers are close to those reported in the chart showing average earnings categories (previous page). (Because the study was limited to those working more than 16 months in the same job, many part-timers were eliminated.) Even so, hours worked are an important determinant of the earnings trends explained here.

Average self-employment earnings by occupation, 1995

Source: Survey of Consumer Finances

Some of the most common self-employment occupations are low-paying

- As with paid employees, the self-employed who work in white-collar occupations tend to earn the most. In contrast, business owners in two of the most common occupations (farming and services) earn relatively little. Business owners working in the social sciences – lawyers, economists, sociologists, psychologists and anthropologists – earned an average \$85,100 in 1995, followed by those in medicine and health (\$73,800). The self-employed in both of these occupational groups made over twice as much as employees.
- The self-employed in two other white-collar occupations – managerial and administrative and natural sciences, engineering and mathematics – earned almost as much as regular employees in 1995 (98% and 97%, respectively).
- In 1995, self-employed sales people earned 15% more than employees working in sales.

- Self-employed farmers also tended to make more than farmers working for someone else. Still, average earnings were low in this relatively large self-employment occupation.
- The self-employed working in service occupations (for example, child care workers, barbers and hairdressers) earned relatively little in 1995 (\$16,200 or 72% of paid workers in these occupations). Some of the earnings gap is accounted for by police and fire-fighters, relatively well-paid employees in this sector.

Charts and text for this issue of "Key labour and income facts" were adapted from the *Labour Force Update*, Autumn 1997 issue (Statistics Canada, Catalogue no. 71-005-XPB). For more information, contact Geoff Bowlby at (613) 951-3325; Internet: bowlgeo@statcan.ca.

In the works

Here are some of the topics to be featured in upcoming issues

■ Stay-at-home dads

In 1967, the wife was the sole earner in only 2% of all single-earner families (with or without children). By 1993, the figure had increased to 20%. More recent data (the 1995 Survey of Work Arrangements) indicate that in more than one-quarter of such families with children under 16 at home, the wife was the sole earner. This article will examine the stay-at-home dad phenomenon, taking into account characteristics of both earner and non-earner (age, sex, occupation, education, earnings, full- or part-time status, work schedule, and so on).

■ RRSP update

A short note to present the latest data on contributors, contributions and withdrawals (number of contributors and amount, plus room left for further contributions), examined by age, sex, province, level of income, and type of worker (self-employed or salaried).

■ RRSPs and the Home Buyers' Plan

This article looks at the RRSP Home Buyers' Plan in terms of amounts withdrawn and number of participants. In addition, it considers the number of taxfilers who defaulted on their 1995 repayments, as well as the amounts involved, and compares defaulters with those who did repay. Participants are also examined by age, sex and income, and whether or not those who repaid were able to make additional RRSP contributions.

■ Unused RRSP room

The number of taxfilers who dip into their unused RRSP contribution room in a given year is only a small proportion of those with such room. In addition, they use up only a fraction of the room available to them. This note presents an analysis of those who take advantage of unused room, by age, sex and income.

■ An international comparison of employee training

This study looks at employee training in the seven countries participating in the 1994 International Adult Literacy Survey. Training effort, sources of support, motivation, and characteristics of trainees are examined.

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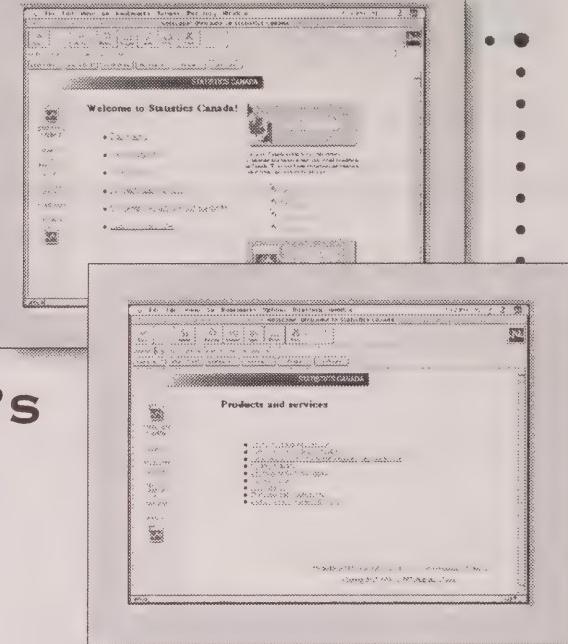
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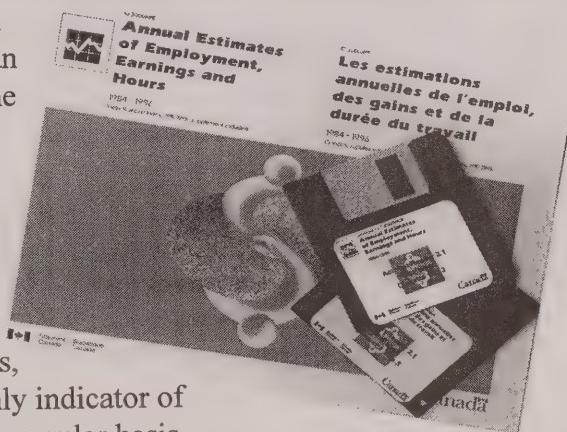
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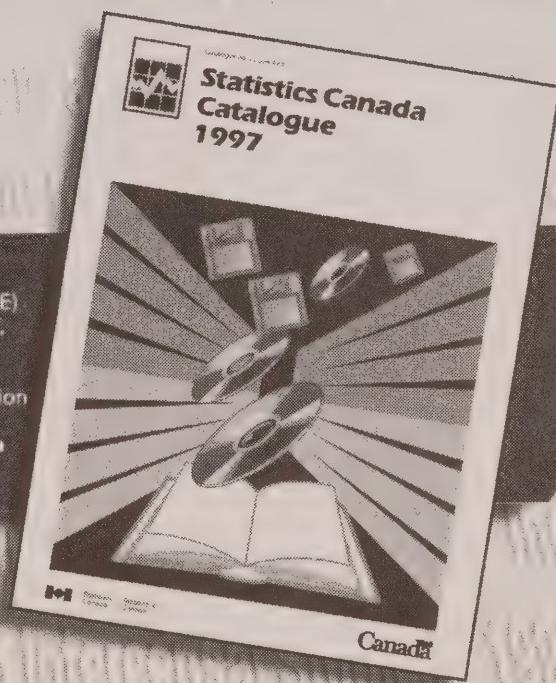
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